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East Europe Report

ECONOMIC AND INDUSTRIAL AFFAIRS

No. 2032

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CONTENTS

YUGOSLAVIA

GABCIKOVO-NAGYMAROS COMPLEX SIGNIFICANCE DISCUSSED

Prague SVET HOSPODARSTVI in Slovak 26 Jun 80 pp 1, 2

[Article by Engineer Pavol Duda, Ministry of Forestry and Water Management of the Slovak Socialist Republic]

[Text] The Gabcikovo-Nagymaros waterworks system entered the third year of its implementation. The construction project, which currently represents a task of extraordinary political and economic importance due to both the technical challenge it poses and the unusually numerous operations it requires, demands all participants in the project to make use of extraordinary political and economic measures as well as superb organization to create a solid political and economic base for successful completion of the project.

It must be admitted that even in the area of planning we are at a loss as to where to fit this project into the framework of indicators devised for monitoring the investment process. This state of affairs left its mark on preparations for the project by making it necessary to divide the entire system into construction projects whose extent was determined by the limits placed on constructions started in individual years. Thus, e.g., we failed to secure the desired level of cooperation by the key partners in the project to carry out their assigned tasks by quality performance and in keeping with prescribed deadlines in the areas of project runup, compilation of plans, operating mode for constructions in individual years, as well as in management and control on the site.

We are still plagued by persisting problems resulting from inadequate concentration of construction resources, i.e., manpower, construction machinery and means of transportation as well as their utilization. Thus, e.g., through pressures exerted by suppliers there have been undesirable decreases in the annual volume of projects incorporated into yearly plans. This will result by the end of 1980 in a drop in the work schedule of almost Kcs 600 million.

As regards procurement, there are still problems with supplies of technological equipment for the hydroelectric power plant and flotation chambers at the Gabcikovo river grade. To step up the current rate of construction progress, more systematic effort must be developed not only by the construction industry of the Slovak Socialist Republic, but also by the machinery industry sectors which supply technological systems for the Gabcikovo-Nagymaros hydroelectric power plant as well as excavation and transportation equipment.

As we find ourselves in a period which calls most of all for maximum economy in all phases of investment projects, particularly as regards consumption of basic materials and energy, this will also be one of the decisive tasks to be met in this construction project. However, this requirement has not been met very effectively in practice.

Production plants of the Economic Production Unit of the Ministry of Metallurgy and Heavy Industry are endeavoring to produce and install gates for flotation chambers that are substantially heavier and pose more demands on energy than was envisioned by the original designer. It turns out that management personnel ought to be more critical in evaluating the performance of production personnel--primarily from the viewpoint of economic control methods scheduled to be used in production control from the year 1981.

From the viewpoint of the investor, the only proper path to follow is a more systematic implementation of meeting the requirements of this project in regard to both construction operations and technological supplies in accordance with the project deadlines.

Deviations in computations from the network graph show that tasks at key installations of the Gabcikovo river grade are not being met even in operations that could seriously affect the deadlines for launching operations of power generation facilities.

The most serious lag at the Gabcikovo hydroelectric power plant concerns protection of the foundation pit against subterranean waters, a task which according to the network graph ought to be completed in May 1981. There have also been some delays in submitting binding design documentation for the hydroelectric power plant by the energy sector investor by a year and a half. The biggest problem encountered at the dam in Hrusov, as well as at the natural and drainage channels, concern late deliveries of machinery and transportation equipment already paid for. Even during project runup at the level of the original project there still persists a failure to coordinate views among project participants in regard to sealing elements for the levees of the dam and the natural channel as well as the above-mentioned gates for the flotation chambers at the Gabcikovo river grade.

In followup of occurring changes, which became reflected in the documentation processed at the level of the Joint Contractual Project, it is intended to provide a Supplement to the Study of the Construction Complex, which will be used for documenting changes of a technical and financial nature as opposed to the task design approved as early as 1974.

Financing for the project was not secured until the fourth quarter of 1979 and is provided by four technical control directorates coordinating implementation of the project by Czechoslovak suppliers. The directorates are located primarily at key operational centers linked up with the organizational structure of the contingent of suppliers. The fifth technical directorate covers investments for suppliers from Hungary who, according to specialization of labor, will be handling construction projects on Czechoslovak territory, primarily selected protective measures at the Nagymaros waterwork and the drainage channel of the Gabcikovo waterwork.

After construction operations start in 1980 and continue in subsequent years, the investor expects--in the interest of a smooth flow of operations --to set up in Gabcikovo in central management of the technical control directorates (investment directorate) which in addition to providing supplies for the project would organize a unified management for the project with headquarters in Gabcikovo.

It is also expected that the contingent of contractors will in the near future find solutions in regard to the organizational structure of permanent production units, not only for main contractors, but also for subcontractors. Current difficulties encountered in coordinating construction work among contractors underline the fact that considerations regarding the formation of an independent building organization for the construction of this project and followup water management investments in subsequent five-year plans (making navigable the lower reaches of the Vah River, the Danube-Oder-Elbe navigation channel, the Bratislava-Wolfsthal waterwork) ought to be examined by the appropriate authorities.

To improve the meeting of tasks in construction of the waterwork, a joint socialist pledge was adopted in September of last year, however, toward the end of the first quarter some organizations have been meeting the pledge unsatisfactorily, (e.g., Investment Construction of Slovak Power Engineering Facilities, the Czech-Moravian Kolben-Danek plant in Blansko and Skoda-export, who failed to submit binding documentation for the hydroelectric power plant).

To promote accelerated meeting of tasks relevant to the pledge, accountability to party organs for the entire project will accrue to the authorized representative for the conduct of this project.

Carrying out of the tasks of the Seventh Five-Year Plan, which will be crucial for launching power generation facilities into operation, is, however, already experiencing multiple problems at plant level, mainly because contractors refuse to accept responsibility for those parts of the project for which design documentation is not available as yet but have been entered by the planning authorities into the list of projects being launched. All this is a chain reaction to the fact that in the sphere of investments, in view of the constantly changing conditions for implementation of deliveries, it has been impossible to this day to accurately define the expected actual cost of the project and the binding data approved in 1974.

It ought to be emphasized that participants in the project, as well as political and administrative organs having a stake in the project, are still facing many tasks, among which the categorical need for prompt and effective coordination of contradictory measures encountered in practice is still of prime importance.

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BRIEFS

CSSR-HUNGARIAN TRADE--In 1980--compared with 1979--the volume of the Czechoslovak-Hungarian trade will increase by 4.1 percent. The most important item--accounting for about 60 percent of the overall volume--will be engineering products. In the nonengineering sphere, the CSSR exports to Hungary mainly products of the rubber and chemical industry. A considerable part of CSSR imports from Hungary consists of consumer goods--about 18 percent of imports by volume--and of foodstuffs. [Bratislava SMENA in Slovak 1 Jul 80 p 5]

CSSR FUEL, POWER SITUATION--This year the CSSR will import from the USSR 8.8 billion cubic meters of natural gas, that is, seven times its imports in 1970. This year's imports are equal to the caloric value of 30 million tons of brown coal, of which our North Bohemian Brown Coal Basin will extract 68 million tons this year. The gas fields in Dolni Dunajovice, Lab, Suchohrad, Malacky and Michalovce are extracting one tenth of the amount of USSR's natural gas deliveries: their annual production of illuminating gas amounts to 3.2 billion cubic meters. Further possibilities of storing gas underground are being investigated. The storage plan for 1980 envisages storing 1.5 billion cubic meters of natural gas. The Transit Gas Pipeline Praha has fulfilled all tasks in transporting natural gas across the CSSR territory, thus fulfilling all CSSR's commitments in this respect. There are 2,576 kilometers of Transit Gas Pipeline on the CSSR territory for gas deliveries to the GDR, the FRG and Austria. By the end of this year a further 500 kilometers will be added to them. This year the Transit Pipeline will transport 37 billion cubic meters of natural gas. [Prague RUDE PRAVO in Czech 27 Jun 80 pp 1, 2]

CZECH PRESSES FOR USSR--Representatives of the Moscow Stankoimport Organization and of the Prague Stojimport Shareholding Company signed a contract in Prague on 27 June for the delivery of CSSR-made presses to the USSR. The contract is worth R16.2 million, and the presses will be manufactured by the Brno Smeral Works, Zdar Engineering Works and Piesko Engineering Works. [Prague RUDE PRAVO in Czech 28 Jun 80 p 2]

CSO: 2020

LACK OF MANPOWER SAID TO AFFECT STEEL, CHROMIUM PRODUCTION

Duesseldorf HANDELSBLATT in German 3 Jul 80 p 7

[Article by tml: "Isolation Because of Break With China"]

[Text] Tirana--Albania has been facing isolation in the communist world ever since its government broke with China 2 years ago. President Tito's death only added to the headaches of the Albanian government.

Even discounting the remote possibility of a Soviet intervention in the Balkans, any political change in Yugoslavia will necessarily have repercussions on Albania. The future of the two countries is closely linked, if only for the reason that the Yugoslav provinces Kosovo and Macedonia also have a strong Albanian minority.

Ever since the Soviet occupation of Czechoslavakia in 1968 Enver Hoxha, Albania's chief of state and party, recognizing the close community of fate between his country and Yugoslavia, has pursued a policy of gradual rapprochement with Belgrade. Following President Tito's illness last year Hoxha was quick to declare that Albania would fight on Belgrade's side in the case of Soviet aggression against Yugoslavia.

Chinese Experts' Withdrawal

Hoxha's break with China has caused considerable damage to Albania's economy. The Chinese withdrew not only their advisers and technical experts but also took with them all the plans of projects which were expected to be built with their cooperation. Of these the key projects were industrial steel, chromium iron, machine and petrochemical enterprises. Ever since the Chinese withdrew there has been a shortage of specialists in the chromium industry, the country's principal economic sector.

Things are no better in the iron and steel combine Elbasan, which was erected with Chinese assistance. This combine was expected to produce an additional 250,000 tons of refined steel in addition to its capacity production of 1 million tons per year.

Refined Steel From Western Europe

Today, because of a lack of specialists, the Albanians are able to produce only ordinary steel in the enterprise which is not suitable for every branch of machine-building. This forces them to import refined steel from Western Europe.

Since their break with China oil production has also dropped below 1.5 million tons, 20 percent short of the plan. This naturally affects the petrochemical combine in Ballsch too. Spare parts for drilling equipment and refineries are also in short supply.

Recently Albania's foreign trade partners have also complained about the deteriorating quality of chromium exports over the past year. The chromium content of the ore imports from Albania decreased from 51 to between 43 and 46 percent.

This unfavorable economic development now forces Tirana to a rapprochement with the West. Albania needs primarily knowhow. Plans are afoot to have Albanians trained in technical sciences in Western institutions of higher learning to fill the vacancies which have resulted from the withdrawal of the Chinese. This does not mean that Tirana contemplates a thaw in its Stalinist system or is ready for ideological concessions. In these spheres Hoxha still prefers total isolation as he has revealed in his latest book "Eurocommunism-Anticommunism" in which he attacks the West European variety of communism with the same vehemence with which he dealt in his past books with communism of the Moscow, Peking and Belgrade varieties.

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ASPECTS OF NEW ECONOMIC MECHANISM IN INDUSTRY

Sofia OTECHESTVEN FRONT in Bulgarian 13 Jun 80 p 2

[Article by Grigor Popovi "In the Course of the Application Process"]

[Text] Reassessment of some criteria governing the work of the economic manager. High feelings of responsibility along the entire production chain.

The establishment of any approach is a process in the course of which positive consequences do not follow immediately. Instant results could not be expected from the application of the economic approach as well.

In the course of the more extensive display of socialist commodity-monetary relations, in the clash between producer and consumer, and under the effect of the principles of economic incentives and economic coercion, shortcomings in the behavior of economic cadres are emphasized against the background of positive actions like birthmarks. That is why some criteria of our activities must be reassessed on the basis of the effect of the new economic mechanism.

One of the significant consequences of the economic approach is the manifestation of some disparities between the production process and the market, leading to a certain clash between producer and consumer. For example, the making of wholesale prices consistent with international prices showed the existence of a considerable gap between the level of output of a number of textile and furniture enterprises and average global conditions.

With such a simple and logical situation, which is nothing other than a clash between producer and consumer, most economic managements are profoundly aware of the solution.

"Since the price of the end product is based on international market trends," they think, "the only thing left is to base wholesale prices of components of end products as well on world prices." This is a logical

and accurate judgment, fully consistent with the economic approach and the wish that our domestic production be comprehensively as good as the goods produced by other countries.

The new economic mechanism defined wages as a residual value. What does the term residual value mean? The clear and intelligible explanation given the collective is that wages are the result of income from goods sold after withholding funds for corresponding obligations and payments. At the same time, however, the enterprise's warehouses contain unsold goods. The conclusion is that the collective has not earned its wage.

Such cases would drive anyone to a dead end, for this is not the fault of the workers. Yet, are the managers to be blamed for the fact that the goods have not been purchased yet? What if they have been billed for but the funds have not as yet been transferred? Well, this could be remedied by a bank loan. It is difficult, however, if the goods have no consumer. The "inventive" manager, in such cases, will still try to get a loan. "Let us meet the payroll now," he would think, " and consider this later."

This "later" can mean at least two things. The first is related to the "hope" that the economic approach will "blow off," after which there will be business as usual. The second meaning is related to the expectation that some commercial organization will eventually be found to purchase the goods without having as yet realized the nature of the economic approach.

There is a third alternative which could be described as capitulationist. It follows the line of the old way of thinking: Let me straighten out my own situation and after me let someone else find a solution.

Common sense shows that all three lines are consistent with the type of economic management applied under the recently existing economic conditions.

The first variant is the safest, for the durable nature itself of the orientation toward an economic approach will reject it after a while. The second variant will also lose grounds following the full application of the new economic mechanism. The third, however, will prove to be the most complex, for it is based on insecurity. It is not a question of lack of faith in one's own future, for, as Comrade Todor Zhivkov recently emphasized, the party is concerned with the cadres and will support them at difficult times and protect them in critical situations. With such a policy of stability of the economic cadre potential, and with sensible actions carried out with a feeling of responsibility, under the new economic mechanism lack of confidence in the future becomes an absurd phenomenon.

All that is left is the nonneutralized danger of another type of faithlessness according to which the corresponding manager would be unable to cope with the work under the new conditions. A logical extension of this concept would inevitably lead to the conclusion that either this specific manager does not have the qualities needed by an economically knowledgeable and capable manager or that he has not reorganized his thinking so that he may march to success in discovering internal reserves and creating intellectual prerequisites for raising the production process to the level of competitiveness.

All this confirms the accuracy of the party's stipulation that today it is very important to reorganize the way of thinking which, along with a reorganization of activities will insure success in the application of the economic approach.

I was recently informed of striking cases. It was a question of a big forklift truck enterprise which, over a 9 month period, sent trucks to a plant 250 kilometers away with which it is involved in cooperative manufacturing, on 170 different occasions. The trucks had to make the trip several times per shipment of cooperated parts. Yet, we know that we have enterprises which maintain cooperation ties with 50, 60, and even 100 other plants.

This case, described at a time when the new economic mechanism is being applied, sounds paradoxical. However, it crystalizes typical economic-psychological phenomena related to the practical application of the economic approach at the present stage.

It would be no exaggeration to say that the condition of the new economic mechanism is revealed very clearly through activities based on cooperation. This area of interaction among socialist commodity-monetary relations is one of the most effective factors promoting changes in the status quo which is not always quite favorable. At the same time, it most clearly shows the behavior of the economic managers and whether or not it changes under the influence of the requirements of the economic approach.

Practical experience has already acquired a number of examples with dramatic consequences in seeking economic liability from enterprises which have failed to meet cooperated supplies. Frequently, with the help of arbitration, enterprises experiencing financial difficulties as a result of improper supply activities on the part of their partners have received proper compensations.

Unfortunately, this type of action has not become part of the style and method of all economic managements.

Cooperated supplies remain the weak spot of a number of sectors and activities in our economy. Some enterprises are even continuing to be

champions in irregularly delivering cooperated parts they produce. Traditionally, asked why the plan for a given type of output is not fulfilled, the frequent short explanation is the following: lack of cooperated parts. Equally traditionally, we accept this as being in the order of things.

Let us bear in mind that, occasionally, this psychological tolerance has been shaken up by more drastic cadre changes in the managements of such delinquent enterprises. The new directors would undertake to eliminate shortcomings. To what extent were their ambitions real? Schedules were formulated by said enterprises, and active control was initiated over shipments. Conferences were held the moment production hindrances appeared. One day, however, in the course of a meeting it becomes clear that the reasons for the violation of the schedule for cooperated supplies lies outside the enterprise, following a chain reaction. The leads point at another plant.

The concern, at this point, would change, taking the road to ministries and, occasionally, to even higher levels.

Have these past recurring actions been uprooted?

Without showing excessive pessimism let us admit that they still exist. Without excessive optimism, however, let us note that they are decreasing.

What is important in this case is whether or not economic sanctions have played a proper role. A number of examples show that they are being applied timidly. More importantly, this approach is taken because economic coercion is forcing the economic managements to demand from enterprises which have been delinquent in their cooperated deliveries compensations for public and private damages caused the enterprise and the collective.

However, such fines do not always compensate for losses. Along with inertia and the unexplainable reluctance to draw up daily schedules for the delivery of parts, the psychological factor as well has an influence on this condition. The liberal attitude displayed by the managements of two related enterprises hinders the progress of the economic mechanism. The question could be legitimately asked, who would gain from the "friendship" between the two directors? Perhaps the harmed collective, for tomorrow or the day after it too will begin to face claims for delivery failures. We enter a magic circle which we could break only by extending along the entire chain a feeling of responsibility to a national project or else by breaking in several places the chain which will unravel the threads of a liberal relations system.

The application of the economic approach is a process. Each process has complex and, occasionally, conflicting trends. The "birthmarks"--a characteristic echo of the old approach, which exists because something has been born--are losing to an ever greater extent their importance in the current transitional period. The positive is asserting itself as the dominating trend and is winning on the basis of objective social requirements.

ASPECTS OF NEW ECONOMIC MECHANISM IN AGRICULTURE

Sofia KOOPERATIVNO SELO in Bulgarian 13 Jun 80 pp 1, 2

[Article by Georgi Nikolov, chief "Agricultural" Department of the BCP OKRUG Committee in Mikhailovgrad: "Not Only Independence, But Responsibility Also"]

[Text] In the conditions of the new economic mechanism cost effectiveness and one of its basic principles--self-support, play a specific role.

A proper coordination between centralized planning and economic independence of different enterprises is the determining factor of self-support and the other principles of economic cost effectiveness. The structure, concentration and specialization of production are determined by the number and volume of the obligatory physical indicators. This has a direct relationship in placing the AGRO-INDUSTRIAL COMPLEX under the same economic conditions, which requires a differentiated approach. It means that when determining the number and volume of the obligatory physical indicators those in charge of centralized planning should take into consideration the objective data--weather, soil and other conditions--which play an important role in determining the level of production and its effectiveness. During 1979 the Mikhailovgrad OKRUG was assigned 10 obligatory physical indicators, which was the largest number, for grain, sugar beet, sunflower, HEMP, tobacco, soybean, tomato, meat, milk and eggs.

As far as the land configuration and soil are concerned, the OKRUG is divided into three areas: lowland, medium hilly, semi-mountainous and mountainous. The dominant soil is gray-forest, which is suitable for herbaceous and forage crops. Different conditions for production and a complex structure produced negative economic results. The average annual meat and milk production went up during the seventh five-year plan in comparison with the two previous five-year plans. During the first 3 years of the seventh five-year plan the total production according to the current prices rose in comparison with the average annual production of the fifth and sixth five-year plans by 37.2 and 14.3 percent respectively. At the same time the cost price of production,

expressed in production expenditures per 100 leva of total production, rose by 18.12 percent during the first 3 years of the seventh five-year plan. As a result the average annual profit from agriculture of the OKRUG was 14,241,000 leva for the fifth five-year plan, 5,210,000 leva for the sixth, and for the first three years of the seventh five-year plan the OKRUG closed with a loss of 2,871,000 leva.

In order to fulfill the necessary physical indicators, when those were assigned to the agro-industrial complex, the OKRUG administration was forced to ignore the soil, weather and economic factors, and plant 11.54 percent of grain crops in the semi-mountainous and mountainous areas of the OKRUG.

Something more, the agro-industrial complexes in BerKovitsa, Gavril Genovo, and Vurshets--located in typical mountainous areas were assigned fodder grain as obligatory physical indicator for delivery to purchasing organizations. Because of that the farms fell into even a more difficult economic and financial situation. It is clear from this case that the most important indicator is not what part of the land, the total or commodity production, is covered by the obligatory physical indicators. At first glance for Mikhailovgrad OKRUG this correlation looks favorable. In 1979, 90.84 percent of the total and 66.94 percent of the commodity production was covered by the obligatory physical indicators. The situation is similar in 1980, i.e. 90.93 and 65.68 percent respectively.

It is more important to analyze the profitability of production based on the obligatory physical indicators and to see whether it can not only cover the expenditures but also secure constant capital for agro-industrial complexes including the wage fund.

Since in the long run the profit depends on the obtained results--the average yield, average productivity and production expenses--such deviations should not be planned. However, since the conditions of agro-industrial complex production are taken into consideration, such deviations were planned for 1980 as well. This leads to the conclusion that it is necessary to have a differentiated approach to determine the number and volume of the necessary physical indicators. After all, the structure and specialty of individual agro-industrial complexes are set through centralized planning.

Another important point that has to do with cost-effectiveness and self-support is the matter of contracts and contractual obligations.

What are the more substantial difficulties in adjusting the contractual system in accordance with the requirements of the new economic mechanism?

Economic organizations (Agro-industrial Complex, Industrial and Agricultural Complexes and Scientific Production Complexes) are slowly reorganizing their administrative activity on the basis of the contractual

system and relations. In most cases, including this year, agreements to produce and deliver raw and technical materials to industry look like old formal contracts. They lack the necessary legal and economic competence to carry out the agreed upon business dealings. The essence of the contractual system is not understood well, which in the long run is the cause of all non-compliance with that system, and which affects the financial interests of the agro-industrial complex, various funds and workers' wages. Major failures and negative effects in support of such a conclusion are evident. During the first 3 months purchasing and other organizations received from agro-industrial complexes 333,000 leva in forfeiture for failing to fulfill contractual obligations, and agro-industrial complex in turn collected 16,000 leva from the guilty party.

This necessitates a rapid conversion of the entire sales and supply as well as operational activities of the agro-industrial complex from its present bureaucratic method, to a viable economic method, with greater legal consultations and intervention. This activity must be better organized and more functional. There is a strongly felt need in the agro-industrial complex for legal specialists who would deal with the legal aspects of contractual relations. Maybe it would be advisable to open legal offices within the unified agro-industrial farms, which would serve the agro-industrial complexes and industrial-agrarian complexes on an economic basis.

The agro-industrial and industrial-agrarian complexes continue to be in an unequal situation in regard to contracts with other organizations. Conditions and provisions are dictated to them that have nothing to do with the requirements of the new economic mechanism. This affects first of all suppliers and those organizations which carry out regulated services of the agro-industrial and industrial-agrarian complexes. Here are some examples:

* A department of the Agrochemical Supply DSO [State Economic Trust] offered contracts to supply the agro-industrial complex with chemical fertilizers, herbicides and other preparations every 3 months, but not, accordingly, the requirements and time schedules of the production methods. They also refused any discussions or contracts regarding delivery deadlines.

* A department of "Agromashinaimpeks" VTO [Foreign Trade Organization] accepts deliveries of domestically produced machines on time, but refuses to do so for imported machinery. Isn't foreign trade activity also the concern of this organization?

* Under the new economic mechanism the NPO [Scientific Industrial Trust] "Veterinarno delo" and the NPO for cattle and sheep raising are also changing to self-support. Services of these two groups are more and more expensive for the agro-industrial complexes. However, since they are

regulated services--artificial insemination, various analyses and tests, and the control of the breeding process--the agro-industrial complex is told (not consulted) about what charge is due for ther services.

* There are also unsolved problems with the transportation department of the agro-industrial complex when it performs services for other organizations. It was established that payment would be made according to the rates used by state trucks and the Bulgarian national railroads.

These examples show that the new contract system (when it is put in practice, that is) does not remove the monopolistic rights of some state economic organizations that have business dealings with agro-complexes.

There are also problems and difficulties in exercising the right of the agro-industrial complexes to control some of the commodity and monetary relations. This is in regard to output over-and-above the plan and optional production. According to the economic approach the agro-industrial complex can dispose of this merchandise in a way that would bring the greatest profit. However, the food, alcohol and tobacco industry of Mikhailovgrad OKRUG is a typical case.

The general conclusion is that the "Bulgarplod" DSO could not effectively influence producers so that the contracting for optional production went on as in previous years, through pressure on the agro-industrial complex, which is against the new economic mechanism.

Even more striking is the case of the Textile Fibers DSO--hemp does not exist as an obligatory physical indicator.

In spite of rich experience in the application of internal cost-effectiveness in agriculture, some weaknesses are still allowed. Now that the new economic mechanism is in place, there are clearly defined problems connected with the application of internal cost-effectiveness.

The differentiated approach is still not used when objectives and production expenses are being planned; instead, single standards are applied in all production units.

Creation of correct economic relations between different production units, and between them and economic organizations is the second big problem which has not been dealt with thoroughly, even though the economic mechanism calls for these relations to be determined at the planning stage. The internal documents of the agro-industrial complex--which have been prepared and implemented, and which define those relations and put them in shape--are too bulky and vague, and they are a repeat of similar documents of the National Agro-Industrial Union. When they are based on economics, relations formed improperly between production units on one hand, and between them and economic organizations on the other, affect the material incentive of a collective, as well as the material

responsibility, which they should bear in the fulfillment of the tasks set by the plan.

Basic weaknesses are allowed when the work of a production unit is being evaluated on the basis of the final production and economic results. The principle of wage-leveling still exists, and that is against the principle of material incentive.

Conclusion: The new economic mechanism, which has been in operation for a year now, has proved its vitality. At the same time there is a need for more extensive research into and mastering of the new economic approach and its various practical aspects and problems.

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PROBLEMS SAID TO HINDER PRODUCTION BY 1980 OF 350 EC 1025

Prague TECHNICKY TYDENNIK in Czech 3 Jun 80 p 12

[Article by Antonin Halek: "EC 1025 Progressive Computers"]

[Text] During the Seventh Five-Year Plan, our national economy will need approximately 350 new medium-size computers of the third generation to constitute a key part of automated systems for enterprise management. For this reason, the Mathematical Machines Research Institute has been working on the design of the EC 1025 computer system with a high ratio of microelectronic components. According to preliminary analyses, this computer meets our needs best. It has very great possibilities of application, and its module will make it possible to set up online data transmission and collection systems.

The CSVTS [Czechoslovak Scientific and Technological Society] Institute of Materials Handling, Transportation, Packaging, and Warehouse Systems in Prague has organized a visit to ZPA [Instruments and Automation Plants], Cakovice, for members and invited guests. Expert explanations were given. The parameters and preparation for production of EC 1025 computers were verified by international tests completed 18 months ago. The experts now are checking the operating reliability of first prototypes. They are working on improvement of programing, which is based on the DOS 3/EC system, and they are preparing the computer for production.

The composite structure of the computer's basic unit is remarkable. It consists of six parallel processors and an additional processor (service, organization, operation, disk, multiplex, tape, and communication processors) and blocks of operating memory storage (128 MB. Its average calculation speed is about 50,000 per second and the cycle of principal memory reading 0.5 MS. The basic unit, with standard equipment, uses up to two large capacity disk memories through the controlling module with exchangeable bundles of disks with a total capacity of up to 400 MB. It permits connection to up to 10 controlling units of peripheral equipment or multiplexer channels for data transmission, of the cathode ray tube, keyboard, and service memory with pliable disks in the operator's control panel. The system eventually may be expanded by connecting it to another operating

memory block with a capacity of 128 MB tape and communications processor (for 7.25 and 29 MB disks) or by supplementing the disk processor with controlled electronic recording for EC 5066 disks. A communications processor is being prepared for the innovated version of EC 1025 computer.

The EC 1021 is still being produced along with the EC 1025. A total of 230 of these sets have been manufactured since 1973. Simultaneous production of both computers is likely to continue until 1983. Indications are, however, that not all of the planned 350 sets of EC 1025 computers can be manufactured by 1985. Production capacity is limited, and more than 1,000 suppliers of various components, particularly the suppliers of boards with multilayer printed circuits and multipole connectors, do not manufacture enough active and passive electronic components. The production program of ZPA Cakovice also includes manufacture of ADT 4300 computer systems, analog and hybrid computer systems, complex digital and analog control and information systems, particularly for the newly constructed power plants. These account for 30 percent of the total production volume. The enterprise therefore lacks the capacity necessary for greater production of EC 1025 computers. The advantage of the EC 1025 computer is the potential operation in the virtual addressing mode up to 16 MB. Another prospect is the possibility of long-distance data processing by means of terminal systems and the possibility of connecting this computer to computer systems of a higher order. This places it into the category of universal computers particularly suitable for automated systems of enterprise management.

After exchanging experiences with the operation of the EC 1025 computer system, the participants discussed the possibility of producing 350 sets at least by 1985. They placed the greatest emphasis on the necessity of complete shipments of all peripheral units and on achieving long-term operating reliability of the computer. We can assume that the new federal Ministry of Electronics Industry will create all necessary conditions for production so that the Czechoslovak national economy will have at its disposal a sufficient number of EC 1025 computer systems by 1985.

10501
CSO: 2400

VHJ ORGANIZATIONAL DEVELOPMENT STRATEGY EXPLAINED

Prague PODNIKOVA ORGANIZACE in Czech No 5, 1980 pp 200-203

[Article by Engineer Jan Vacek, Cand Sci, Federal Ministry of Metallurgy and Heavy Engineering: "Strategy for Organizational Development of Economic Production Units"]

[Text] The strategy of organizational development occupies an irreplaceable position in systematic and long-term management of Economic Production Units [VHJ]. As it is perhaps not necessary to emphasize the importance of strategic management of these large economic complexes for effectively combining advantages of socialism with the potentials of technoscientific revolution, I would like, at this point, to focus on the following basic relationship: Continuous channeling of technoeconomic and social development in the desired directions depends on the process of changes or shifts in specialization of labor. Selection of a variant of VHJ's organizational structure, which reflects and fixates current and, particularly, prospective requirements of development of the forms of specialization of labor, constitutes, therefore, the key problem in strategic management of VHJ. True comprehension of this fact also fosters comprehension of the necessity for a qualitative shift in organizational efforts.

Subject Matter of Strategic Organization

Strategic organization of VHJ connotes an active shaping, with an eye to the future, of technical, economic, political, psychological, jurisdictional, informational and organizational structure of VHJ as a relatively stable and suitably distributed system. Its basis is effective concentration, specialization, combination and cooperation of efforts throughout the VHJ and their organizational elements. It seems to include the following phases of the decisionmaking process:

--defining of needs which VHJ will meet in the national economy on a permanent basis, the simultaneous determination of the product and technological structure of production and its developmental trends;

--designating of economic organizational units of VHJ and their distribution, delineating their position in specialization of labor within VHJ (specialization)--i.e., specifying and concentrating in them processes corresponding to the determined structure of key activity according to classification levels for products and outputs at a given level of their structural or technolo,'cal (process) similarity;

--determining the technological profile of organizational units of VHJ--i.e., specify the composition and territorial as well as organizational concentration of machinery and equipment with a view of their characteristics, specify the structure and sources of basic types of materials, semifinished products, products for processing as well as power sources and specify the professional and qualificational structure of personnel;

--standardizing the progress of executive processes, i.e., determination of permanent supply-demand relations, standard running times and repetition rate of production, guiding technoeconomic standards, norms regarding optimum charges, etc.;

--determining the structure of main, auxiliary and supporting activities, pre- and post-production operations;

--incorporation of locally organized production units, i.e., (with a certain degree of simplification) of shops into plants as basic VHJ units, based on a combination of matter, time and space considerations and relevance of implemented processes;

--determining the structure of management processes in VHJ according to individual spheres of activity and management levels or standardization of their characteristics whenever they are recurrent and show identical or similar traits--i.e., e.g., select jurisdictions and objectives for management levels, criteria for formulation and implementation of plans, chronological progress for preparatory management and decisionmaking processes, resources for material and moral incentives, etc.;

--determining the structure of management processes within units, designating the ties between units and management levels and selecting personnel for key functions in this structure;

--delineating the overall organizational and legal position of VHJ's management levels and those of VHJ as a whole.

Implementation of the selected strategy calls for continuously adjusting the current VHJ structure to defined goals and changing conditions, and thus we face mainly the need to:

--provide even in the course of organizational changes such a measure of reliability to the progress of economic processes that would preclude interference with the needs of the national economy and still make possible the requisite measure of autonomous control of organizational VHJ units and

--overcome the momentum of current organizational systems and insure that work groups and individuals gradually become the standard bearers of the new organizational arrangement.

A new organizational setup can be adopted and stabilized only by convincingly implanting it in people's minds. That calls for systematic political, psychological and professional qualification preparations. Timely and thorough information should be provided to personnel as a matter of course. Another logical requirement calls for timely and adequate providing of sources for structural organizational objectives in the relevant segments of the state plan and the economic plan.

On the whole, it can be said that correct strategy of organizational development of VHJ builds this large economic complex, with an eye to the future, on two mutually interrelated bases:

--a clear philosophy or concept for development of VHJ and its economic mechanism and

--utilization of the key trends in specialization of labor, i.e., primarily the tendency for effective concentration, specialization and combination of production and relevant executive processes in organizational units of the VHJ and the tendency for complex management based on adequately selected partial integration of management processes.

The starting point definitely is and will remain long-term complex programs for development of the national economy and cooperation in the framework of CEMA. The selected program objectives in development and introduction of new products and technologies, reproduction of basic production assets, in social development of work collectives, marketing and other spheres of VHJ activity, make specific demands on the characteristics of VHJ's organizational arrangement, so as to support systematic implementation of professed intentions into practice. At the same time, to the extent to which these program or strategic objectives are contingent on changes in the organizational system of the VHJ (its relative stability ought to be preserved for at least a 5-year period), to that same extent they themselves must become an organic component of the strategy for organizational development. This is so because strategy of organizational developments involves, first of all, formation of an effective technoeconomic and social and political structure of VHJ, which can become manifest only in a certain formal organization of VHJ. In this context, strategy or organizational

development also fulfills an unsubstitutable coordinating and integrating function in long-term development of the entire VHJ.

Organization of VHJ is essentially a planned process and strategic targets must be formulated in particular for the following features of organizational structure:

--structure of products and standardization of production processes;

--specialization of VHJ's organizational units in main activity;

--type and organizational level of centrally administered cooperative activities;

--size and distribution of organizational units of VHJ;

--standardization of control processes;

--dominant competence (division aspect) of control organs, and

--automation of executive and control processes.

Correct selection of these strategic objectives calls for respecting the effects of a number of factors which influence desirable arrangement of VHJ and its potential changes. This involves primarily targets of economic policy (particularly if they cause major shifts in specialization of labor), structure of needs of the national economy met by VHJ's production, rules of the system for controlling national economy, level of current concentration of and cooperation in production, complexity of production, recurrence of production, variability of status in organizational units of VHJ, similarity of organizational units of VHJ, economic significance of products, economic costs of cycles for introducing new products, economic costs of cycles for reproduction of basic production assets, availability of personnel for work collectives, current degree of automation of control functions, complexity of infrastructure of work collectives and handling requirements posed by production. Strategic targets of organizational development must hereby systematically provide particularly for the following objective requirements of management and administration of VHJ: implementation of priority for societal and long-term interests, implementation of selected directions for technoeconomic, social and political development, management of complex ties, management based on an adequate chronological horizon, reliability of management, flexibility of management, proportionality between structure of production and consumption in regards to individual products (their components) and other output, proportionality between individual production and preliminary production factors, production and post-production phases, economic stability and adaptability of VHJ and their

organizational units and, finally, differentiated specification of incentives for collectives and for individuals.

Development of Specialization of Labor

The basic source for improving efficiency of production is development of specialization of labor and recurrence of processes. Adding depth to specialization of production shops and plants facilitates enhancement of the regulatory base, a more exact delineation of jurisdiction, responsibility and material incentives, improved planning, simplified flow of information, facilitates automation and continuous progression of processes. Specialization of production in a certain area leads concommitantly to territorial concentration of production in that region and increases the dependency of the plants concerned as to their optimum size and distribution under local conditions. The attained level of science and technology as well as needs for continued economic development create possibilities and condition the necessity for rapid development of VHJ of optimum size and their production in lot series. Improved standardization of the production process facilitates combining of technological processes, shortening of the production cycle and introduction of entire production systems with complex mechanization and automation and increasing individual production capacity.

A particular problem attendant to development of specialization of labor in VHJ is constituted by centralized joint execution of pre- and post-production processes or their segments in specialized organizational units. This facilitates attainment of effective results through concentrated output. When I speak of specialized organizational units, I have in my mind all their concrete forms. Thus, not only the newly springing up so-called special-purpose organizations, but also production plants (their units) and units under general management that are authorized to carry out identical activities. A simplistic notion of specialized organizational units existing only in the form of independent special-purpose organizations could lead to literally weighing down the VHJ with a number of similar organizations and could eventually cause it to meet the needs of the national economy with less reliability and efficiency. The right tendency which is gaining ground is to concentrate in suitably located and oriented specialized units those production-connected tasks and activities that are common to many plants or are given by technological production linkage, are particularly taxing as regards technoeconomic aspects and qualifications, are recurrent or are standardized, have specific significance, etc. Plants are gradually ridding themselves of such centralized activities and in so doing they further promote their specialization.

Deliberate specialization of shops and plants in regards to their size and distribution is probably the most significant problem of organizational development of VHJ. At the same time, we cannot afford to form a one-sided concept of shop and plant specialization. What is needed is to

determine the optimum depth and width that is compatible with the needs of the national economy, with the needs of VHJ, trends of techno-scientific development, aspects of economy and commerce. The indispensable prerequisites for full utilization of economic advantages offered by specialization is increased technological similarity and concentration of production of prospective products in each shop and plant in an optimum or minimally admissible volume.

A significant problem is incorporation of units that conduct research, development, design, technology, organizational development and marketing, i.e., units that are the prime exponents of creative initiative. As long as they form an integral part of a plant (not that of general management systems, or VHJ), it would be wrong to reduce these economic systems to plants, because to apply their initiative (in which they must be intensively interested) they must have at their disposal the requisite financial and material resources and bear responsibility in direct supply-and-demand relations. Complex equipment of plants does not denote by any means that details could or should not be controlled in the requisite extent by the general management of VHJ.

Development of specialization of labor and requirements of effective management lead to wide differentiation in VHJ structure. Selected plants and special-purpose organizational units can be authorized to carry out activities which are common to the entire VHJ or its part; if this involves delegation of preparation and execution of selected management processes, some plants would also acquire the requisite jurisdiction in comparison to the rest of the plants. It is necessary to deal with problems whether: all plants should be subordinate directly to the general manager of the VHJ (which is still the rule), or differentially subordinate to selected technical managers; managers of selected plants (special-purpose organizations) authorized to carry out many VHJ functions will simultaneously be carrying out the function of technical managers of VHJ; centrally carried out common activities will be concentrated in plants, independent special-purpose organizations or units under general management, etc. It is obvious that all the above-mentioned organizational ties have their justification under given sets of conditions.

Due to their objectively different position in the specialization of labor within the VHJ, plants and other organizational units are differentially assigned jurisdictions and responsibilities. The factors that come into play here are particularly the closeness of the plant's ties with the remaining plants, effects of complex programs for long-term development on shifts in specialization of labor in VHJ, economic costs of introduction of new products and technologies. It is further the depth of knowledge regarding the plant by general management, and its possibilities for applying in regards to plants such stimuli as would arouse intensive interest by the plants to develop maximum creative initiative, etc. It is imperative to strive at all times to

preserve a horizontal balance of jurisdictions in individual spheres of activity at all levels of VHJ management, as it is the basic prerequisite for complex management in the conditions applicable to the given level as well as acceptance of undisputable decisions and accruing responsibility.

From the viewpoint of material and moral political incentives and delineation of responsibility, we further differentiate between units determining the characteristics of economic process (particularly planning units), units responsible for maintenance of prescribed parameters (control units or units of technical management), and organizational units (particularly plants and special-purpose organizations). At all times there must be maintenance of the principle of adequacy of ties for organizationally delineated (formalized), natural and budgetary (economic) responsibility, with the ties being reflected in plan indexes and rules governing incentives.

Development of specialization of labor in VHJ results in a hierarchical sequence of organizational elements and units representing a graduated arrangement of work and responsibility. The requisite measure of standardization of management processes requires an effort to purposefully unify VHJ structure on the basis of rational structure of the so-called basic (economic) units organized in such a manner as to always include logically complete segments of production or other processes in conformance with the given technology and specialization of labor. Units must include all key phases of management, i.e., planned decision-making, stimulation and control. In this manner, standardized basic economic units will assert themselves throughout the VHJ in technologically and functionally analogous phases of the reproduction or control process; however, their structure cannot be based on some autonomous concept that does not take into account specific tasks of the plan and other objectives that they must meet through their economic activity (involving the problem of confrontation of the subject and extent of the unit's work with the possibility of projecting it onto plan indexes) and responsibility for promoting efficiency. These should include such centers (as a rule at operational and department level) which in the area of production logically comprise exactly delineated parts of the production process (or technical or managerial activities) characterized by an appropriate calculation unit and always specifying a definitive share of production activities for the development of which they are singularly responsible. What is essentially involved is that basic economic units be subdivided as as to integrate all aspects of processes which are of key importance to management and that they facilitate to the maximum possible extent standardization of operational and informational processes. This basically entails providing a homogeneous base for future integrated management of VHJ.

Path of Gradual Integration

Development of specialization of labor goes hand in hand with suitable forms of its reverse integration in the control process. To date this involves in an absolute majority of cases the historically developed so-called linearily functional (staff) organizational structure at all levels of management where it becomes reflected as a "mirror" image. The characteristic trait of the linearily functional unit structure in practice is its division into five sectors (technical, economic, production, commercial, cadre and personnel) which, as a rule, occupy an equal position on horizontal level. This composition of sectors is often modified in several directions: combining sectors, e.g., economic-commercial and technical-production sector (in the case of smaller VHJ with decentralized management), establishment of an investment sector (in case of extensive investment development of VHJ), establishment of some complex sector, e.g., sector for cumulative long-term development or for control of selected developmental production programs (in cases of attempted elimination of some shortcomings in the traditional linearily functional structure). At the same time, from case to case within this structure, occurs latent use of elements of the team or matrix structure which, however, are largely regarded as interfering phenomena.

It is of interest to note that in socialism, which is known for its innovative approach to solution of probelms, we are forever attached to an organizational structure that is particularly suitable for carrying out of routine tasks. The shortcomings of this structure come to the fore as soon as the management process has to deal with atypical and new problems, e.g., structural changes in the production program, introduction of new products and technologies, particularly if they are richly intertwined. Here the static structural organization makes cooperation in complex actions more and more difficult. The constantly and increasingly complicated progress of economic life deepens the gap between units, which has particularly detrimental repercussions in the case of VHJ; there occurs estrangement of members of top management from production and of management units from one another. Due to various formalities, splintering of management processes, artificial obstacles and discussions regarding sphere of activity and hierarchy of management, leading personnel often lose track of the very essence of management problems. A functional approach to management has caused, e.g., personnel of technical, production and commercial units to fail to enforce economic efficiency under the impression that it is a matter to be attended to by the economic sector. And it is precisely effective, economically oriented technical, production or commerical activity that constitutes the sources of efficiency. Tasks of economic development cannot by far be reduced to the structure of contemporary economic sectors.

A switch to a more organic arrangement of managerial processes will have to be gradual, reflecting realistic potential for changes in human minds,

because current structures are firmly implanted in people's minds together with hierarchy of power, pay classification, professional specialization, habits, etc. The logically continuous and strategically oriented direction of organizational development of managerial processes appears to be building a VHJ management system through suitably oriented partial integrations of the overall management process. Technically speaking, I refer to this concept as a linearily subintegrated organizational structure.

The linearily subintegrated organizational structure is based on the following principles:

1. Complexity of management is provided by three levels:

--at top managerial level, i.e., director of a given level and his team--particularly chiefs of sectors, unit for complex strategy and control, and selected specialists;

--at the level of units with integrational jurisdiction--particularly overall planning, systems organization and formation of an integrated data base;

--at the level of complex team cooperation, exceeding the limits of all units and management levels, with the team chief being solely responsible for the results.

2. In additi n to service-induced vertical superiority and subordination of leaders of units at individual levels it assumes factual vertical superiority and subordination of units which otherwise are horizontally at an equal position in terms of service. This means that leaders of departments and sectors which are equal in terms of service must respect in their work decisions made by leaders of units which deal with the hierarchically preceding phase of problems.

3. It is built on the basis of a system of suitably selected partial integrations of the management process, i.e., the so-called dominant subintegrating competencies. Division of these competencies and their corresponding units is systematically based on dialectic unity of requirements for specialization of labor and its reverse integration. From the VHJ viewpoint, aspects of this division are essentially as follows:

--management of VHJ as a whole (competence of overall planning on all chronological horizons, systems organization, formation and maintenance of an integrated data base);

--management of products (competence of complex management of production and development of individual groups or products);

--management of developmental programs (competence of complex management of research, scientific, structural and social programs);

--management of administrative phases (competence: overall planning, entering into supply-demand relations, development and preparation of production, production), and

--management of organizational units as entities (competence of complex management of homogeneous groups of plants or coordination of management of individual plants or organizations and generating information about them).

Into the above-listed types of dominant competencies then comes organic incorporation of competencies given by the remaining elements of economic and management functions of VHJ. Thus, it is advisable that the sphere of cadre work, which by its substance belongs among problematic areas of the organizational system, remain concentrated into an independent unit directly under the director at the appropriate level.

4. The basic management level delegates top managerial functions to sector level; the basic level for preparation of top management and its implementation is a department which also can be organized as a temporary team.

5. Collectives of departments include personnel who are specialists in the assigned competence, who, as a rule, work in complex interdepartmental and intersector teams established particularly in thematically related sectors with the objective of reaching solutions with a maximum of input in a given competence. This effectively interconnects solution of related problems. An exception to this rule is routine activity strongly dependent on technical organization. In essence, there occurs a desirable intertwining of stabilizing strong structures and dynamizing elastic structures of organization. The teamwork system in preparation of management (particularly balancing of work capacities) is controlled by the unit for organizational development or coordination.

It appears that the principles and wide variability of possible solutions of the above-described linearily subintegrated structure point out a suitable direction for a realistic strategy for organizational development of VHJ management. To illustrate this approach, let me cite the following example. In compliance with administrative conditions, some VHJ on general management level could choose dominant competencies according to the chronological horizon of management and according to production programs, a setup reflected in the following composition of general management sectors: sector for management of long-term development, sector for overall executive management and three sectors for management of suitably selected groups of production departments, products or plants; at plant level, dominant competencies can then be selected on the basis of integrated planning and organization and, further, according to administrative phases, which would become reflected in the following composition of sectors of plant management: sector for complex management, supply

sector, sector for development and production startup, the production sector; at shop level, the dominant functional competencies would be supplanted by two shop management sectors: sector for economy and production startup and a production and commerce sector.

Selection of dominant competencies for division of sectors starting with the general management of VHJ becomes the basis for an entire network of other competencies and their equivalent units and ties in both vertical and horizontal levels of VHJ management.

Another strategic direction for integration in the organizational system of the VHJ is systematic automation of control. It makes it possible to overcome limitations still linked to current specialization of labor, monitor and control more systematically the progress of economic processes, gain a multifaceted insight into the internal economy of VHJ and develop on this basis a new specialization of labor. Automation calls for a high degree of organization of processes, or high standardization and integration of specialization of labor; these processes then progress on technical means of control. Changes occur in concentration of human labor and activities, fresh approaches are gained to new problem relationships and their comparable combinations of activities as well as the resultant specialization and organizational levels of individual sectors including their relative relations as regards superiority or subordination. Automation of control enables top management of VHJ to gain almost absolute control over the activities of lower levels of management (and thus also enhances strengthening of discipline among personnel) and expediently enables these levels to gain easier access to more objective and more accurate information and criteria for selection of suitable solutions to problems and delineates for them more precisely their leeway for decisionmaking (leading to desirable channeling of initiative). Development of automation must conform to the overall strategy of organizational development of VHJ.

Effectiveness of Strategy for Organizational Development

Evaluation of "net" effectiveness of organizational development of VHJ is for all practical purposes impossible, because its effects become reflected in overall results attained by VHJ inseparably with the progress of routine economic processes. Effectiveness of a selected organizational strategy for VHJ can probably be assessed only by long-term evaluation of the development of key characteristics of this complex. In view of specific effects on the effectiveness of VHJ or its economic processes, the overall effectiveness of organizational development can be best expressed by average year-to-year development of values, such as are the following indexes of economic efficiency:

--profitability of VHJ outputs measured by relation of profit to adjusted outputs;

--profitability of VHJ measured by relation of profit to basic and working assets;

--effectiveness of fixed assets from own outputs and gross sales (by the plant method);

--share of reserves in adjusted outputs;

--relation of actual and optimum capacities of plants in the production of developmental groups of products;

--relation of prices of developmental groups of products of VHJ to comparable top products worldwide and the prices paid for the latter in world markets;

--share of production of developmental groups or products in production of VHJ goods, and

--profitability of production costs for developmental groups of products produced by FCO's [Funkcne cilova organizace, [?] Functionally-targeted organizations].

In addition to this relatively summary assessment of the effectiveness of organizational development of VHJ, it is necessary to take an analytical look into the effectiveness of substantial partial solutions of the organizational structure of VHJ and monitor the values of, e.g., the following indicators:

--development of length of production cycle of products and production time (including duration of the production cycle and duration of preproduction stages);

--development of the relation between transportation routes for semifinished products and the number of technological operations performed;

--development of the share of transportation and storage costs in VHJ output;

--development of the share of the volume of goods production for individual, identical time periods;

--development of the relation between duration of technological operations and the duration of the production cycle;

--development of the relation between increases in output and increases in the number of technoeconomic personnel in pre- and post-production stages,

--development of changes in profit or output in relation to changes in the number of leading personnel (beginning with heads of operations and departments);

--development of profit or output increases in relation to the number of leading personnel, or units and organizational elements of individual types of levels and management;

--number of changes in technoeconomic and organizational standards for a given unit of time and others.

The desirable development of all the above-listed indicators is surely suffi iently known.

Conclusion

In conclusion, it ought to be pointed out that the strategy of organizational development will receive in the course of the Seventh Five-Year Plan a significant tool for implementation in the form of a complex program for development of management. This should also permeate all organizational work with an impetus for more planning, keeping an eye to the future and being systematic in seeking solutions to problems. An organic part of such work should become, among others, the method of analysis of values and social analysis. The path forward is constituted by unity of content and form, unity of technical, economic, social political and organizational means.

8204
CSO: 2400

CAPITAL INVESTMENT COSTS, PROBLEMS VIEWED

Prague HOSPODARSKE NOVINY in Slovak 13 Jun 80 pp 8-9

[Article by Engineer Zdenek Nedobyty, Institute of Economy and Organization of Construction Industry: "Why Are We Building at Increasingly Higher Costs?--On Issues of the Development in the Industry of Construction Materials"]

[Text] If we evaluated the prior results of capital investment over an extended period, there are no doubts that capital investment shared in the past, and is sharing now, in the successful development not only of individual branches of production in the construction materials industry, but also of other essential branches of our national economy. Despite this fact, capital investment faced its problems in the past and is facing them now. Shortcomings, evident especially from reviews of its efficiency, have caused an inauspicious development of certain decisive indicators, and in the final analysis, affected the overall efficiency of investments. In order to be able to overcome such shortcomings, or at least to mitigate them, we must study and identify them correctly. The merit of such studies and analyses has been confirmed also by the continuous growth of investments in the construction materials industry, which is unavoidable in the interest of completing the building of the material base for our construction industry.

For this reason studies are being conducted within the framework of research to analyze the qualitative aspect of efficiency in capital investment. Differentiation in the structure of the construction materials industry has been reviewed to identify as objectively as possible the causes of declining efficiency of fixed assets, and at the same time, to pinpoint not only the negative but also the positive aspects of investment programs, and thus, to specify different points of view held by branches of production, stemming precisely from their specific character.

Cross-Section of the Results of Certain Indicators

To identify the differences in the obtained data and indicators, and consequently, to determine the cause of such differences, all branches of production in the construction materials industry compiled documentation concerning

comparable plants, both the existing and the newly planned ones. For objectivity's sake, the review of the consequences of different preconditions stipulated in planning documentation of investment programs under consideration and the results obtained after the completion of the program has been expanded to obtain a broader and more comprehensive survey of problems related to efficiency of investments, and of factors affecting that efficiency.

Efficiency of fixed assets and the amount of technological equipment in support of the work are among the basic economic indicators which determine not only the investment policy but also the overall development. From the study of the development of those indicators it is evident that efficiency of fixed assets declines with higher technological equipment. Conversely, productivity of labor may be raised, however, at a slower rate than the amount of equipment, as appears from Table 1.

Table 1. Growth of productivity of labor and equipment available to labor in the construction materials industry in the CSSR

Tabuľka č. 1

RAST PRODUKTIVITY PRÁCE A VYBAVENOSTI PRÁCE V PRIEMYSLE STAVEBNÝCH LÁTOK ČSSR

1. Ukazovateľ		2. Index 70/65	75/70	80/75'
Základné prostriedky 3.	ČSR	149,6	196,8	158,3
	SSR	148,2	188,7	149,4
	ČSSR	148,8	193,8	154,1
Hrubá hodnota výroby 4.	ČSR	165,0	148,4	129,8
	SSR	142,7	142,8	125,8
	ČSSR	157,8	141,1	121,1
Produktivita práce na pracovníka 5.	ČSR	•	137,1	120,5
	SSR	•	133,8	120,8
	ČSSR	164,7	135,7	120,5
Účinnosť základných prostriedkov 6.	ČSR	114,1	110,9	81,7
	SSR	95,7	96,1	94,5
	ČSSR	101,2	97,5	85,2
Účinnosť strojných základných prostriedkov 7.	ČSR	111,7	100,6	79,1
	SSR	93,8	93,3	88,3
	ČSSR	103,5	98,7	82,8
Vybavenosť pracovníkov zák. prostriedkami 8.	ČSR	•	172,1	135,3
	SSR	•	157,4	138,2
	ČSSR	133,3	153,9	148,9
Vybavenosť pracovníkov strojnými zák. prostr. 9.	ČSR	•	154,1	180,6
	SSR	•	145,1	141,8
	ČSSR	136,6	149,1	158,6

10. Očakávaná skutočnosť podľa doterajšieho vývoja.

Key:

1. Indicator
2. Index
3. Fixed assets
4. Overall costs of production
5. Labor productivity per worker
6. Efficiency of fixed assets
7. Efficiency of machinery fixed assets
8. Equipment of workers with fixed assets
9. Equipment of workers with fixed assets in the form of machinery
10. Projection based on prior development

Declining Efficiency of Fixed Assets

Factors affecting the coefficient of efficiency of fixed assets and its course, analyzed with many other factors and expressed numerically, may be presented in the following brief review:

1. The extent of efficiency of production, i.e., overall value of production, is affected by the following:

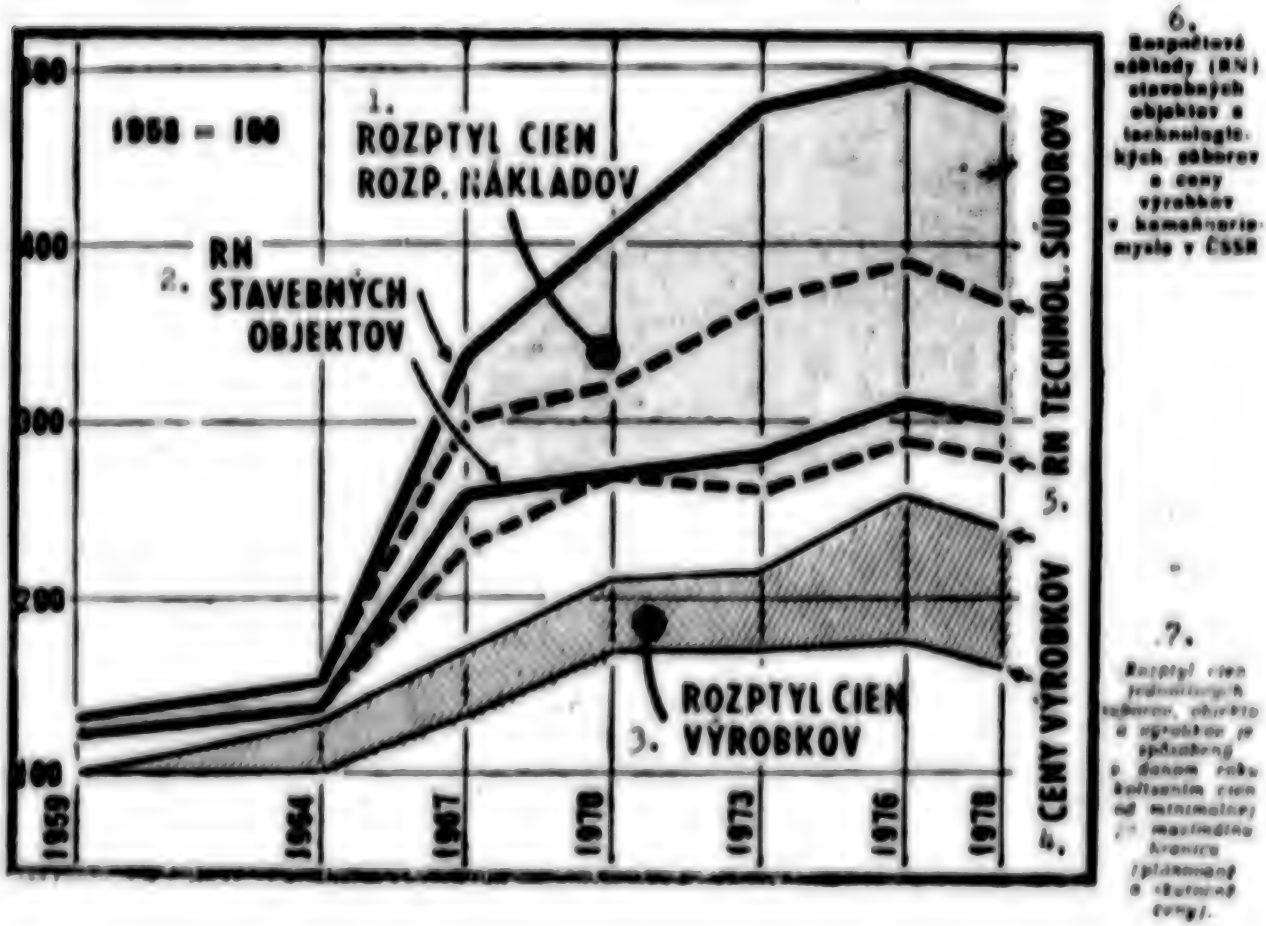
--the effect of prices of products, and their development;
--the effect and action of equipment used extensively and intensively in production;
--the effect of the technological development on the growth of production.

2. The growth of fixed assets (investments) is affected by:

--the effect of the development of budget costs and directive regulations;
--the effect of the development of prices of construction projects and of the machinery sector;
--the development of prices of imported machinery;
--the effect of building lots and their distance from the raw material base;
--the effect of technological development;
--the effect of construction design, and so on.

If we correlate these factors affecting the growth of fixed assets (investment funds) with the overall costs of production and its growth as compared with the preceding period, we may see that the development of prices of sophisticated products included therein has not been in proportion with the development of prices (budget costs) of investments. Or, to put it bluntly, efficiency of fixed assets demonstrates a declining tendency because the prices of fixed assets (investments), especially of machinery, have been rising more than the parameters of their performance. This fact is evident, for instance, from the graph representing the stone-processing industry in the CSSR.

Graph 1



Key:

1. Diffusion of prices of budget costs
2. Budgetary costs of construction projects
3. Diffusion of prices of products
4. Prices of products
5. Budgetary costs of technological systems
6. Budgetary costs (RN) of construction projects and technological systems, and prices of products in the stone-processing industry in the CSSR
7. Diffusion of prices of individual systems, projects and products is caused by prices fluctuating in a given year from the lowest to the highest limits (planned and actual prices).

Analyses made for individual branches indicate a different development of prices of products and of budget costs in capital investment. From a comparison of the results in the development of prices stipulated by the regulations in force with the development of prices of typical products reviewed

by the branch it is obvious that budget costs of capital investment are rising at a substantially faster rate than the prices of final products. Thus, we may observe that price relations are among the basic and decisive factors affecting the efficiency of investments and its development.

The results obtained point to causes of an objective character (and thus, immutable under the existing conditions) as well as of a subjective character (and thus, solvable).

One of those effects is the instability of prices of investments and their continuous growth in the construction and machinery sectors of investments; in every instance their rise exceeded original estimates. This growth affects negatively not only the efficiency but also the overall planned management of investment policies. At the same time, the so-called "additional allowed price adjustments" implemented since 1959 have made it possible thus far to take advantage of the loopholes and shortcomings in price regulations, or to interpret those generally valid regulations in a subjective way.

According to the results of the completed analysis, the index of such effects in the construction investment sector, for instance, in the 1959-1974 period, was 2.5 to 3.5, the index for foundations prior to the installation of machinery was 3.0 to 4.5, and for other surface construction projects 2.5 to 4.0.

For a better comparison of the analyzed construction projects, the construction sector of budget costs for building projects or groups of building projects was divided into building projects or groups of building projects, basic specific value indicators for budget costs were numerically expressed, which specified not only differences in price, but also differences in the areas under construction, in areas with completed construction projects, etc. Thus, it was possible to differentiate the growth stemming from a whole range of changes in price and budget regulations, from higher costs based on Law No 53/66 of the Collection on protection of agricultural lands, which plays a relevant role particularly in the branch of production of the stone industry and cement manufacture (see, for example, Tables 2 and 3).

Table 2

Tabuľka č. 2

ROZPOČTOVÉ NÁKLADY STAVIEB ŤAHLIARSKEJ VÝROBY V ČSSR (r. 1959 = 1) 1.

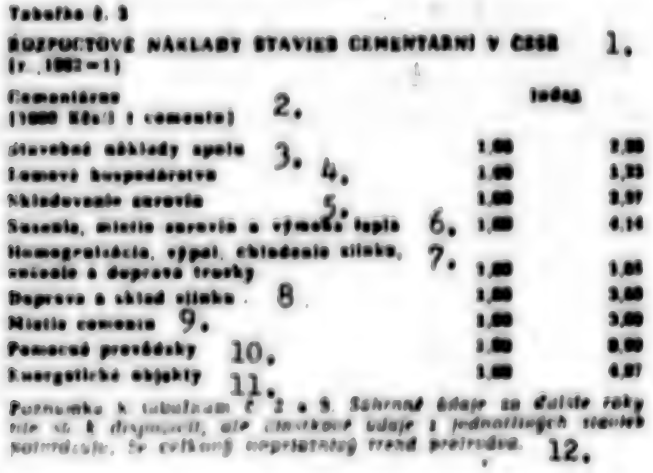
Ťahliarska výroba (1959 = 1)	2.	1959	1967	1969	1974
Rozpočtové náklady stavebnej časti	3.	1,0	1,67	2,51	1,54
Základné technologické objekty bez zostavení	4.	1,0	1,45	2,0	2,67
Sústruhy	5.	1,0	1,05	4,27	3,00
Dielňa	6.	1,0	1,25	0,0	0,25
Krytá skládka	7.	1,0	1,38	1,84	3,50
Otvorená skládka	8.	1,0	1,27	1,32	1,50
Energetické objekty	9.	1,0	1,00	2,17	2,17
Objekty soc. a administr.	10.	1,0	1,15	2,0	1,71
Inžinierske siete	11.	1,0	1,42	2,42	1,70
Ostatné objekty	12.	1,0	0,35	1,0	0,51

[Key on following page]

Key:

1. Budget costs of construction projects for brick manufacture in the CSSR (1958 = 1)
2. Brick manufacture (Kcs 100/1000 brick units)
3. Budget costs of the construction sector
4. Basic technical buildings not including kilns
5. Kilns
6. Workrooms
7. Covered storage
8. Open storage
9. Power-engineering buildings
10. Social and administrative buildings
11. Engineering network
12. Other buildings

Table 3



Tabulka č. 3

ROZPOČTOVÉ NÁKLADY STAVEB CEMENTÁRNÍ V ČSSR (r. 1962 = 1) 1.

Cementárna (1000 Kčs/1 t cementu) 2.			
Stavební náklady spolu 3.		1,00	2,00
Lomové hospodářství 4.		1,00	1,33
Skladování surovin 5.		1,00	2,97
Sušení, mletí surovin a výměna tepla 6.		1,00	4,14
Homogenizace, výpal, chlazení slínku, drcení a doprava troby 7.		1,00	1,85
Doprava a sklad slínku 8.		1,00	3,00
Mletí cementu 9.		1,00	3,00
Pomocné provozy 10.		1,00	0,99
Energetické objekty 11.		1,00	4,87

Poznámka k tabulkám č. 2 a 3: Souhrnné údaje za další roky nejsou k dispozici, ale dílčí údaje z jednotlivých staveb potvrzují, že celkový nepříznivý trend přetrvává. 12.

Key:

1. Budget costs for construction of cement plants in the CSSR (1962 = 1)
2. Cement plants (Kcs 100/1 t cement)
3. Total construction costs
4. Quarry management
5. Storage of raw materials
6. Drying and crushing of raw materials, and heat exchange
7. Homogenization, firing and cooling of clinker, drying and transport of debris
8. Transport and storage of clinker
9. Cement crushing
10. Auxiliary operations
11. Power-engineering buildings
12. Note to Tables 2 and 3: Comprehensive data are not available for subsequent years, however, partial data from individual construction projects confirm that the generally inauspicious trend still continues.

The situation does not look any more favorable, if we compare the prices in the machinery sector of investments. Although during the period under study several changes were made in calculations of machine-engineering production, among other things, the development of prices of investment units was affected primarily by the modification of the program of production which is replacing the existing machinery with new models. Other effects similar in character stem from the expanding volume of the construction programs under way. The growth of unit sets calls for production of prototypes, and thus, it raises prices by the share of development costs, which is growing at an extraordinary rate in large units of operation. This effect cannot be directly quantified, but it may be identified according to the growth of specific investments.

Along with official statewide changes, a "hidden price rise" which occurs systematically is caused either by the changes of materials or by more sophisticated technology, or in some cases, by determination of individual prices.

Yet another relevant symptom must be underlined when analyzing the changes of prices in budget costs, namely, the rising foreign prices, particularly in capitalist states. Back in 1971, machinery imported from capitalist states was listed in the documentation in prices which included a 3 or 4 percent one-time allowance for increase of foreign prices. In 1972 to 1974, however, prices skyrocketed so that import organizations demanded that agreements on foreign purchase prices include 10 percent annual allowances for price increases prior to scheduled deliveries of machinery and equipment. If the delivery period averaged 5 years, it meant a 50 percent price increase for the planned machinery and equipment imports. This effect of changing prices was further accentuated in 1975 when import organizations demanded that the same allowance, i.e., 10 percent, for price increase be included for imports from the socialist countries, and that the allowances for imports from the capitalist states be differentiated for individual countries, ranging from 12 to 25 percent semiannual increase, averaging 15 percent annually.

If we compare this growth of prices of imported machinery--without which the newly developing branches of production in the industry of construction materials cannot operate in view of the insufficient, or not adequately adjusted, capacity of production of our domestic manufacturers--with the initial situation in 1965, this represents in some instances a growth of up to 500 percent.

Thus, the development of budget costs of the machinery sector according to the data unaffected, as much as possible, by the scope and line of production may be characterized as follows:

--Growth index amounts on the average to 2.4-4.5. This growth index does not affect merely the price but also the bulk and the demands for bulk (the bulk of the total series of machinery has increased by 145 to 200 percent, and the unit price per 1 kg increased by 200 to 300 percent, and even more).

--Prices of imported machine equipment have risen out of proportion because of the exchange rate of foreign prices.
--The share of our domestic equipment calculated as "nonstandard" or designated delivery has increased. The growth index of budget costs in the domestic sector of units, for example, for cement plants, amounts to 4.24 to 4.9.
--Equipment that was not completely developed is often included in the unit of production, and therefore, its costs cannot be correctly specified in the planning documentation; after the completion of the construction project, however, its price rises conspicuously.
--Imports of automated equipment have been expanded and their impact is felt especially because the total increase in prices of such equipment may be expressed by an index of 3 to 6, where the prices per kilogram are the highest.

We may explain the causes of the continuous decline of the indicator of efficiency by correlating the values of investment funds thus calculated, representing the denominator in the formula of the indicator of efficiency, with the overall value of production, representing the numerator in the formula of efficiency, with respect to the fact that the prices of products in many instances have declined, or risen at a slower rate. This explanation offers a decisive argument, although the decline of the indicator of efficiency cannot be fully attributed to the efficiency of capital investment.

Naturally, the growth of budget costs in the sector of construction and machinery, as compared with the preceding period, is evident also in the development of the indicator of equipment of workers with fixed assets, in other words, technological equipment of labor.

Growth of Equipment With Fixed Assets

Conditions for workers improve with each level of mechanization and automation as compared with the preceding period. This fact may be substantiated if we consider the conspicuous rate of absenteeism and fluctuation in the construction materials industry and its individual branches of production. Introduction of new, more efficient machinery raises the efficiency not only of the funds of production, but also of services, changes the structure of workers, improves the quality of products, and reduces the costs of production. On the one hand, those factors raise the costs of investments, but on the other hand, they affect the growth of productivity of labor.

Furthermore, we must bear in mind that one of the basic factors, whose new operating tools spur the growth of the technological potential, is above all the expanding availability of means of production as well as of supplementary equipment facilitating services or safety of operations, and improving esthetic parameters of new products. As a rule, such improvement does not directly raise operational efficiency of machinery and equipment, but on the other hand, in many cases it substantially increases the costs of the

introduction of new technology. The application of this tendency does not imply declining efficiency of new technology in the national economy as a wh le. Nevertheless, the consequences of that phenomenon depend on the kind of conclusions and recommendations stemming from it. For example, in terms of the growth of investment funds--and thus, also of workers' equipment in newly planned investments, as compared with the past--the effect of a sophisticated working environment and safe operations is significant. At the same time, in comparison with other branches of national economy (for instance, with machine engineering), the construction materials branch of the industry is still lagging in this sector. It will require additional investment funds, and thus, more equipment to make up for this lag, to catch up with other branches, and to provide equal conditions for workers in the construction materials industry where the demands of personal hygiene are especially urgent in view of the noisy, dusty or otherwise harmful environment.

Additional increases stem from the introduction of new, advanced construction and urban designs. Investment costs are affected to a substantial degree by new materials for construction systems of buildings as well as for interior and peripheral safety constructions. The effect of the building lot cannot be ignored because it also affects the volume of investment costs. By allocation of increasingly inferior building lots, the costs of ground work, surface work and insulation of foundations are increased. The situation of building lots for industrial plants manufacturing construction materials is determined basically by the location of suitable sources of raw materials identified and assessed by geological surveys. Therefore, it is much more necessary to resolve more complex and more challenging demands concerning the selection of building lots for future capital investment construction projects.

In the brief explanation above we have tried to present the factors affecting the decisive indicators under study, as well as the fact that their character is both objective and subjective. From the above it follows that this concerns two problems:

1. prices of investments,
2. the legitimacy of demands for contin ous growth.

Additional Factors in Increasing Costs

This means that the difference, or the unfavorable effect of certain decisive indicators of efficiency in capital investment must be attributed not only to a rapid rise in prices of construction and machinery investments, but also to other factors. This is evident from a brief quantification of the impact of such factors. The following share in higher budget costs of

--Changes in the design of construction projects; additional changes of raw materials, power, fuels, etc.; additional demands by public agencies with whom the documentation has not been properly discussed, responsible for approximately 28 percent;

--More laborious groundwork for construction projects due to more difficult ground conditions than in the past and than originally envisaged, and more strenuous excavation of soil in surface works, in block buildings, etc., and furthermore, incomplete or erroneous planning documentation, responsible for about 22 percent;

--Modification of construction projects and operations; substitution of materials, and changes in technology during the process of construction, responsible for about 16 percent;

--Costs of machinery and equipment increased above prices listed in bids to purchase prices during planning and construction; inevitable adaptations of the equipment because of the failure to meet the parameters of machinery and equipment listed in the planning documentation, responsible for about 21 percent;

--Methodological changes and nationwide adjustments of prices, responsible for about 13 percent.

This brief quantification of the impact of certain factors offers some food for thought. It is, however, necessary to ask what may be the counterpoise of such differences which impose substantially greater demands on investment funds than in the preceding period, or whether the achieved results are in proportion to higher investment costs.

Soviet economists proceed from that standpoint when stating that although the indicator of efficiency of fixed assets, particularly in production, is applied to assess economic operations of enterprises, organizations, or ministries, next to the indicator of efficiency, productivity of labor and its growth are among the most significant indicators characteristic for economic efficiency. As a matter of fact, the indicator of efficiency as such determines merely the amount of production per unit of value of the fixed assets (investments within a specific period). However, it does answer the question of what follows after its increase, or its reduction, in terms of efficiency of production in general, which is the most important factor in assessing efficiency of fixed assets. Efficiency depends on the technological level of assets, on technological-economic parameters, and on the relation of such parameters to the value of the production. Technological progress in the construction materials industry is focused most of all on mechanization, or automation, of processes of production with the objective of achieving rapid growth of labor productivity in view of the need to increase the production of goods and to reduce the need for employees in production with a simultaneous growth of fixed assets. In such instances it is possible and proper to reduce the efficiency of fixed assets, if that is compensated by increased productivity of labor.

It is indisputable that there are numberous factors which increase at the same time as productivity of labor and efficiency. Among such factors for example, are restricting or even halting the continuous growth of budgeted

costs of construction projects and of prices of equipment by specifying new models with higher efficiency at a lower price per unit of capacity, by introducing new technological processes which will help reduce the consumption of funds in the production and increase the efficiency of fixed assets by rational adaptation of operations, or--as it appeared from the results of the completed analyses--by correctly balancing the prices of products with budget costs and their development.

To establish the level of efficiency of newly planned investment programs, we assessed the "over-all effect of productivity" as compared with the preceding period, not only the process or the development of the indicator of efficiency. This coefficient of overall productivity may be expressed as the index of efficiency multiplied by the index of productivity of labor. This consideration reflects not only the impact of the growth of fixed assets (materialized labor) but also the effect of the growth of productivity of labor (savings of labor). Its selection may express a certain "overlapping point" of the positive and negative effects not only as regards the assessed investment programs (both under way and newly planned), but also with respect to the production sector, if we wish to learn how extensively the newly planned investment programs of the sector contribute as a whole, where that value is greater than one.

We made this calculation for every production sector in conjunction with newly planned investment programs and in comparison with investments completed in the preceding period. The results did not always indicate demonstrable effects, which was evident not only from calculation of construction funds, but also from those dealing with machinery assets. This indicates that budgetary costs are growing at a faster rate than labor productivity.

Compromises Are Expensive

Yet another problem must be mentioned in this context because it exerts an undesirable effect on the efficiency of investments encountered when assessing the costs in planning documentation, and on the results achieved after completion of construction programs. This involves not only a somewhat excessive budget due to additional increases in prices in the construction and machinery sectors, which, in addition to utilizing loopholes in the price regulations, have frequently led to equivocation and inadequate preparation of plans for capital investment, but leads to the so-called introduction of progressive views in an effort to have the program included in the plan, even though it be known in advance that such a proposal is unrealistic. Thus, a great many compromises are forced on us by practice which are solved by launching construction projects without the mandatory complete planning documentation, and also by using planning documentation which is very often completed and specified gradually in the course of building the construction projects. Finally, in addition to the above, certain normal pressures and undesirable motivation on the part of the suppliers raise the budget costs and thus, also the price of investments.

Another relevant fact which cannot be disregarded is the disproportionate extension of the timetable for construction. The funds which are thus frozen and which could be much more active and could produce more rapid growth of national revenue, in some instances represent the loss of more than three times the value of annual production. This circumstance also hinders the implementation of technological progress. If we add to this the failure to meet the decisive indicators envisaged for the program, such as for instance productivity of labor, the costs of production and profits, those negative factors may be said to affect the efficiency of investments that are solvable and deserving of attention.

Thus far we have not been able to enumerate with sufficient accuracy all consequences stemming from the introduction of various investments, and to assess them correctly, primarily because of the difference in the effects of capital investment which may even be antagonistic in certain respects.

Many calculations are based to some extent on estimates that have not always been fulfilled. Even though this risk cannot be completely eliminated, at least it may be mitigated by appropriate analyses and calculations. The results of assessments of economic efficiency of investments are affected by the range of consequences under consideration. The greater the desirable change in the productivity of labor, the greater must be the changes in the distribution of manual and materialized labor. A change of proportions, however, is not merely a consequence, but also a precondition for higher productivity of labor. In certain instances (especially due to the shortage of manpower, which is typical precisely for the sectors of production in the construction materials industry, priority must be given to that option which leads to higher productivity of labor even at higher investment costs. Sometimes even relatively small savings of material costs may be effective, particularly if this concerns materials that are in short supply or imported under disadvantageous conditions.

In many cases constantly rising investment costs may be explained under given conditions by the introduction of mechanization and automation in the processes of production, and by the creation of better working and social conditions, if the costs may be compensated for by the results achieved. Unfortunately, this has not always been the case. Many of the causes of rising investment costs could be eliminated because a whole series of shortcomings in capital investing have subjective roots found in the activities of the participants in the investment process and of the users of fixed assets. In my opinion, in the given situation every confirmed result and every bit of information obtained by detailed, particularly objective analyses of a permanent character may enhance the efficiency of investments and the success of the implementation of the investment program in the future five-year plans.

9004
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METALLURGY, PRODUCTION OF DURABLES REVIEWED

Prague HOSPODARSKE NOVINY in Czech 13 Jun 80 p 2

[Commentary by Jiri Poslt, deputy section chief within the CPCZ Central Committee: "Metallurgy and Engineering"]

[Text] For the first four months of this year, the Federal Ministry of Metallurgy and Heavy Engineering reports 100-percent fulfillment of its commodity output plan. At the same time, heavy engineering fell 18 million korunas short of plan fulfillment. At the end of April the plan was not fulfilled by Metallurgical Processing of Prague, Ferrous Metallurgy of Prague, and Skoda of Plzen.

In comparison with the same period last year, the ministry's output volume increased 2.7 percent (including 1.6 percent in metallurgy, and 4.4 percent in heavy engineering); thus the output in value terms increased by more than 1.0 billion korunas. The rise of labor productivity accounted for 74.1 percent of this increase, which was 0.4 percentage point short of the plan but 2 percentage points higher than what was reported for the same period last year. In the area of using the output, the marketing tasks were exceeding, and also fulfillment in the individual categories, except export to nonsocialist countries, was higher than what the plan called for. In the area of inventories, the overall inventory position increased by 1.7 percent since the beginning of this year. The financial plan is affected by the unfavorable development of performances, and cost overruns had a negative impact on profit. Planned profit is the lowest in Ferrous Metallurgy.

Total sales during the first quarter amounted to 23.6 percent of the annual target. Deliveries for capital construction were fulfilled 21.3 percent, but only 16.5 percent for the obligatory capital construction projects. The ministry, the economic production units and the enterprises must devote increased attention to deliveries for EME III [third stage of the Melnik Power Plant], the Cultural Palace, Rako III [third stage of the Rakovnik Power Plant], the Prague Metro, reconstruction of the National Theater, the Prague North Meat-Packing Combine, the Pukance Furniture Factory, the Polomka Woodworking Combine, the Stara Lubovna Textile Combine, Vertex in Moravsky Krumlov, Chemical Pulp in Zilina, Chemko in Strazske, and other projects.

Deliveries to domestic trade at retail prices have been fulfilled successfully, both in terms of the planned volume (the plan was fulfilled 118.7 percent, the overfulfillment amounting to 61 million korunas) and of proportional fulfillment of the annual plan. This can be attributed to the Metallurgical Plants and Ore Mines that ensured the increased output of ?KAL [expansion unknown] homes. Ferrous Metallurgy, and Metallurgical Processing likewise exceeded their targets.

Plan fulfillment in the last year of the Sixth Five-Year Plan demands that even more care be devoted to the metallurgical plants. Metallurgy must not lose its dynamic growth, and it must supply the economy with products, in the assortment and quality that the economy needs. Maximum attention in heavy engineering must be concentrated on complete plants for Czechoslovakia and export, to ensure that they are completed on schedule and well. At some capital construction projects this principle is regarded as something obvious, while at certain decisive capital construction projects the tasks set by the 14th session of the CPCZ Central Committee do not seem to apply.

Introduction of the comprehensive system for managing product quality, as an inseparable part of the system of management and organization, must play a growing role at present in improving product quality. The overall consideration must be primarily the products' economic effectiveness for both supplier and user, determined particularly by the most advantageous relationship between production costs and price, and by how the product satisfies society's needs from the viewpoint of society as a whole. This must be the guiding principle of deliveries for the fuel and power base.

The Federal Ministry of General Engineering fulfilled its commodity output plan 100.7 percent (in value terms the overfulfillment amounted to more than 206 million korunas). In sum, the annual plan was fulfilled 33.1 percent, and all economic production units fulfilled the plan.

In the broken down production sectors the plan for the output of spare parts was fulfilled overall for the first quarter of 1980, but at low shares of the annual plan (from 22.2 to 22.3 percent). Individual economic production units are not fulfilling the output of certain decisive items; for example, the Martin ZTS [Heavy Engineering Works], CAS [Czechoslovak Automobile Works] of Prague, and the Povazska Bystrica ZVL [Antifriction Bearing Works].

Deliveries for capital construction were not fulfilled during the first four months by the Martin ZTS, CAZ of Prague, Prago-Union of Prague, and Elitex of Liberec. It is assumed that these enterprises will compensate for the shortfall, during the second quarter.

Overall, deliveries for market allocations are characterized by high overfulfillment of the plan (by 887.5 million korunas). However, deliveries of compressor-type refrigerators, solid-fuel kitchen ranges, enameled bathtubs, meat grinders, and radiators are lagging. Progress in the innovation of durable consumer goods is likewise unsatisfactory. Innovation has begun of only 13 products, as compared with the 51 products planned.

Deliveries for other sales were fulfilled only 23 percent during the first quarter. However, certain economic production units (CAZ of Prague, Martin ZTS, Zbrojovka of Brno, Aero of Prague, Strojsmalt of Bratislava, TST [Engineering Machinery Plants] of Prague, and ZVS [General Engineering Plants] of Brno) fell short on a number of items.

So far as deliveries for export to socialist countries are concerned, fulfillment of the plan during the first quarter was exceeded by more than 952 million korunas f.o.b. The annual plan was fulfilled 24.7 percent. The breakdown of this overall fulfillment by individual economic production units is very uneven, the proportion being very low at Zbrojovka of Brno, Martin ZTS, and ZVS of Brno, and Strojsmalt of Bratislava.

Fulfillment of the plan of deliveries for export to nonsocialist countries has been very unsatisfactory during the first quarter, from the viewpoint of the annual plan's fulfillment and also of scheduling. This situation is influenced decisively by the Czechoslovak Automobile Works of Prague. The Prague Engineering Machinery Plants likewise did not fufill the plan. Plan fulfillment is low at Zbrojovka of Brno and at Elitex of Liberec.

In general the profit plan was exceeded by 211 million korunas, while simultaneously the annual profit plan was fulfilled 26.3 percent. All economic production units fulfilled their plan in the first quarter of 1980. Cost reductions accounted for nearly two-thirds, and higher performances for one-third, of the relatively high absolute increase in profit as compared with the same period of last year.

In its own capital construction during the first quarter of 1980, the Federal Ministry of General Engineering fulfilled 13.8 percent of its annual plan of capital-construction work and deliveries. Capital construction is proceeding slowly on the projects whose estimated costs exceed 2.0 million korunas, and where the annual plan has been fulfilled only 11.5 percent. Progress within the category of capital construction is unsatisfactory on several projects that were designated as obligatory tasks of the state plan, for example, reconstruction of the nodular cast iron foundry at ZTS [Heavy Engineering Works] of Olomouc, reconstruction of the Blatna plants of CZM [Czech Motorcycle Works] of Strakonice, the grey cast iron foundry at ZPS [Precision Engineering Works] of Gottwaldov, and elsewhere. Realization is dragging also of the projects planned for completion in 1980. For example, the first part of the stamping shop at BAZ [Bratislava Automobile Works] of Bratislava was to have been completed in January of this year, but by the end of March only 41.7 percent of the work and deliveries necessary to complete the project was in place. The problems of capital construction stem particularly from a shortage of the building contractors' construction capacity, as a result of which the time limits for the completion of construction and commencement of installation work cannot be met.

Somewhat more favorable are the results in the category of capital construction projects whose estimated costs are under 2.0 million korunas, and of machinery and equipment not contained in the estimated costs of the projects,

including minor enterprise investments. In this category, 17 percent of the planned annual investment allocations was spent by the end of March.

Within the Federal Ministry of Electrical Engineering, fulfillment of the commodity output plan during the first four months fell short by 148 million korunas. Neither economic management nor the economic production units were able to completely remedy the external and also certain internal shortcomings. The objective must be to compensate for the shortfall during the second quarter.

1014
CSO: 2400

COUNTRY'S MILK PRODUCTION ANALYZED

Prague HOSPODARSKE NOVINY in Slovak Jul 80 No 27 p 6

[Article by Engr Viera Izakova, candidate for Doctor of Science, Research Institute of Food and Agricultural Economics, Bratislava: "The Efficiency of Mass Milk Production"]

[Text] The results of a number of studies in the CSSR show that the raising of dairy cattle is the most investment intensive branch of livestock production. This high level of investment, primarily on fixed operating assets per unit of output, demands that attention be directed to questions of the utilization and valuation of these assets. This reality prompted the Research Institute of Food and Agricultural Economics in Bratislava to devise a research project, the goal of which was to determine the condition of the existing level of efficiency of milk production in mass production enterprises on the basis of research carried out at 23 high-capacity dairy operations. At the same time the project was to determine the factors influencing this output, and, on the basis of these findings, to propose a solution to the problems of the economics of milk production in altered production conditions.

What the Analysis Indicated

The analysis of the existing level of efficiency of milk production in the set of dairy facilities with mass production operating conditions indicated that milk production under the mass production conditions of the set of dairy enterprises was inefficient, both on the average and for individual enterprises. Over the years there has been a moderate improvement in the operational economic of the designated high-capacity facilities. Because year to year increases in gross production per Kcs 100 of production costs have been only 2.26 to 3.27 percent--i.e., have not been significant enough--milk production has continued to be inefficient. This is documented by the fact that an average of only Kcs 67 to 72 of gross output, expressed in constant prices, has been produced in individual years per Kcs 100 of production costs. Production costs per liter of milk from 1976 to 1978 reached an average of Kcs 3.53 to 4.30 in the facilities which were studied, a figure 15 to 30 percent higher than the production costs achieved in the constant

group of Slovak Socialist Republic United Agricultural Cooperatives for Research on Production Costs. During this same period, milk production was unprofitable, because the high-capacity facilities lost an average of Kcs 0.19 to 1.37 per liter of milk. In 1978 losses per liter of milk were significantly reduced--by Kcs 1.18--as a consequence of the 1 January 1977 changes in price instruments, in particular the introduction of premiums in addition to purchase prices from milk, and also due to a lowering of the per liter production costs of Kcs 0.77 in comparison with 1976 levels. There were significant differences among the individual high-capacity facilities in the group being researched in the average achieved sales price including supplementary pricing instruments, a situation which proves that it is necessary to search for unused potential for increased milk production in the area of optimal utilization of the economic conditions of implementation. Mostly, premiums corresponding to the quality of the milk have not been utilized, because they have amounted in the average enterprise to only Kcs 0.08 per liter. Their full utilization would make possible an increase of an additional Kcs 0.25 in the average sales price.

The shift to mass production milk production technology has also brought advantages which have manifested themselves mostly in labor productivity, which is 70 to 100 percent higher at high-capacity facilities than at those producing according to traditional methods. Kcs 76 to 86 of gross production has been generated per hour of expended labor, while in the control group of Slovak Socialist Republic United Agricultural Cooperatives for Research on Production Costs, where there are lower concentrations of dairy cattle, the figure is only Kcs 38 to 47 per hour. Here as well, however, there have been many problems, because the high-capacity facilities being researched, as a group and by type of technology, have not fulfilled planned labor productivity targets due to a higher than planned demand for labor. This was caused by technical shortcomings which required the temporary, or permanent, use of extra production workers not provided for in the plan. Moreover, the dairy cattle keepers were unprepared for cattle husbandry under mass production conditions, as shown by the fact that only 10 percent of the production workers had formal schooling, at the same time that the workers tending the work operations of feeding the milking not only lacked formal schooling, but were also without any previous training, i.e., without experience in similar high-capacity facilities.

The increased concentration of livestock, the mechanization of the principal labor tasks, and the higher productivity of labor have contributed to another favorable situation: a decline in the per liter labor cost of milk of 15 percent in comparison with traditional technologies. Increased depreciation allowances for fixed production assets per liter of milk of more than 300 percent above those of the traditional technology, increased writeoffs for dairy cattle, and increased cattle deaths have combined to render the whole process of the substitution of machine for human labor inefficient, because the decline of labor costs in mass production enterprises has not offset the increase in the substituted costs.

What are the Reasons?

There was a low average yearly yield per cow under mass production conditions which reached, in the dairy facilities researched for the project, an average of only 2,631 liters in 1976, 2,620 liters in 1977, and 2,636 liters in 1978. The 1978 average yearly yield was 7 percent lower than the average for the constant group of Slovak Socialist Republic United Agricultural Cooperatives for Research on Production Costs, and 40 percent below the planned yield figures.

The low average milk yield was the cause of high production costs per liter of milk, of low production per stall, and of low production per Kcs 1 of production costs, all of which point to a low level of utilization of the financial resources invested in this branch of cattle husbandry. It would have been possible to guarantee efficient milk production, under the production conditions at the high-capacity facilities at the time of the research, given an average yearly milk yield of more than 3,600 liters per cow. The search for the reasons for this low milking utility has indicated that crosses of the Pingausky breed have achieved higher average milk yields in the mountainous regions, and that the Slovak spotted dairy cow and its crossbreeds achieve higher averages in the lowlands. At the same time, these breeds have been economically advantageous, because due to their higher average milk yields, they have achieved greater efficiency in the consumption of fodder, and therefore a greater production efficiency.

Of the remaining zootechnical factors, unused potential has been evident particulary in the percentage of dairy cows lost. The more favorable loss percentage under current conditions has been 34 percent, which means that lesser quality animals reach the herds of high-capacity facilities as a result of a lack of quality biological material, and moreover that a percentage of the cows introduced into new surroundings do not adapt to them. The elimination of such cattle influences positively the average milk production figures for the whole facility. After solving reproduction problems, it will be possible to count on a lower loss percentage at high-capacity facilities as well, which will contribute to the positive development of milk production efficiency.

Of the other causes of low milking utility, technological faults which worsened the health of the dairy cows, and an irresponsible husbanding approach on the part of the dairy cow attendants both stand out.

Low efficiency in fodder use, disproportionately dry periods, and a low occupation percentage for stall areas have been additional important factors which have negatively affected the efficiency of milk production.

As a result of the low average milk yields, the facilities which were researched achieved only a 61 percent fodder utilization rate. An increase in the milk yield has been reflected positively in the frugality of fodder utilization, which is demonstrated by the fact that dairy facilities with

higher milk yields have achieved a lower per liter fodder consumption rate, expressed in starch units, than enterprises with lower milk yields, and thereby more efficient milk production as well. This is explained by the fact that more than half of the starch unit consumption in the daily food ration is considered a maintenance ration, and the remainder as having utility.

The lack of preparedness of breeding operations resulted in an average occupancy rate at the high-capacity dairy facilities of 76.25 percent in 1976, 90.50 percent in 1977, and 91.70 percent in 1978, although facilities have also appeared with a 46 percent rate of occupancy. This reality implies as well that due to the lack of preparedness of breeding operations new dairy facilities will reach 100 percent occupancy and utilization only 3 to 4 years from the start of operation. This phenomenon is the cause of the low level of utilization of fixed production assets, and of the high value of depreciation of fixed assets per liter of milk.

The condition of achieved economic results in milk production under mass production conditions has confirmed that despite the multifaceted attention devoted to this demanding category of livestock, satisfactory development has yet to be achieved. Only through comprehensive measures at all pertinent levels of management will it be possible to guarantee an improvement in the economics of milk production in the future.

Solve Problems Ahead of Schedule

During the evaluation and approval of preproject and project documentation it is necessary to pay attention to the feasibility of projected production and economic targets and, furthermore, refrain from recommending stall facilities and technologies which have not been verified by recent husbandry experience. The number of variants of a technological solution should be reduced to a minimum, so as to simplify the operation and repair of mechanical equipment.

It is necessary to provide for herd reproduction a sufficient time period prior to the completion of every high-capacity dairy facility, so that these facilities may be filled to capacity following the completion of construction with biological material appropriate to mass production conditions. In this way the current 4-year lag between completion and full occupancy can be eliminated. Similarly, it is necessary to resolve in advance the relationship of high-capacity facilities to the fodder supply, and especially the utilization of internal bulk forage crops, which are economically more desirable than purchased fodder. A further measure which has been neglected to date is the training of qualified dairy cow keepers. We must increase the recruitment of young people for the "livestock keeper" profession, and guarantee them training in existing facilities by means of production experience. It will be possible by this approach to further lower labor consumption--which has been especially high in the first years of operation of high-capacity facilities--per unit and per year.

instruments of agricultural economics have also been altered in recent years to assist the development of dairy cow husbandry. Real purchase prices have increased since 1 January 1980 by an average of Kcs .39 per liter, at the same time that a specialized experimental premium has been introduced to support milk production at high-capacity facilities. These price alterations also guarantee that dairy cow husbandry will remain profitable. They furthermore provide an incentive for agricultural enterprises, in the interest of achieving efficient milk production at mass production facilities where Kcs 25 to 35 thousand of fixed production assets are spent on each stabled cow, to develop comprehensive efforts towards the improvement of the following indicators:

1. Increasing the average yearly milk yield to 3,600 liters and more per cow, through the utilization of quality biological material, as well as a fodder mixture which assures the most favorable conversion of fodder. The consumption of concentrated forage crops per liter of production should not exceed 0.247 kilograms. Guaranteeing the achieved level of milk yield by lowering the dry period to the biologically essential minimum.

2. Lowering the production costs per liter below the Kcs 3.50 barrier, mainly by increasing milk yields, lowering milk cow amortization to Kcs 0.12 to 0.15 per liter, raising fodder efficiency, and lowering labor costs per liter to the level of Kcs 0.40 to 0.50 by increasing labor productivity.

3. Increasing the realized average sales price per liter of milk, including supplementary pricing instruments, by increasing the hygiene of the handling of milk and of proper milking technology, which in turn will make possible an increase in the average sales price per liter of Kcs 0.25, due to premiums for the higher fat content and purity of the milk. The quantity of the processed milk is at the same time a condition for eligibility for an experimental premium amounting to Kcs 0.50 per liter for the first three years after the start of dairy operations, and Kcs 0.20 for an additional 2 years.

In order to implement the above measures and to achieve the cited production and economic targets it is necessary as well to utilize the possibilities contained in the Set of Measures for Improving the Planned Management System of the National Economy, particularly in the area of increased wage efficiency. The utilization of specificity of material incentives and the linking of wages with the performance of intraenterprise units is absolutely essential in this sector of agricultural production, where the human component is especially important.

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BRIEFS

CSSR-BRITISH TRADE COOPERATION ASSESSED--A session of the Czechoslovak-British Joint Commission, established on the basis of the 1972 Intergovernmental Cooperation Agreement, ended with the signing of the final protocol in Prague on 11 July. The two sides assessed the development of relations to date in the sphere of trade and of industrial and scientific-technical cooperation, and the prerequisites for their further development. [Prague RUDE PRAVO in Czech 12 Jul 80 p 2]

COAL EXTRACTION PLAN UNFULFILLED--In the first 6 months of the year, CSSR miners fulfilled their coal extraction plan by 98.3 percent--1,082,084 tons short of the planned target. The shortfall, however, does not endanger the supply of the national economy and population with fuel and energy. With the exception of the North Bohemian Brown Coal Basin--which fulfilled its plan by 96.1 percent only--all other CSSR coal and lignite mines exceeded their production plans. The North Bohemian miners also failed to cope with the removal of the overburden; they fulfilled their plan for the first 6 months of the year by 93.5 percent only, or 4,590,117 cubic meters of the overburden short of the planned target. [Prague PRACE in Czech 8 Jul 80 pp 1, 3]

ECONOMIC EXPERIMENT ASSESSED--The Government Committee for Questions of the National Economy's Planned Management, presided over by its chairman CSSR Finance Minister Leopold Ler, held a meeting in Prague on 30 June. The committee devoted itself to assessing the results of the comprehensive experiment designed to raise the quality of products and the efficiency of management in the 1978-79 period and to evaluating the progress of work on the elaboration of the set of measures for improving the planned management system of national economy after 1980. [Prague RUDE PRAVO in Czech 1 Jul 80 p 2]

FLOODS IN SLOVAKIA--Rains have caused extremely serious problems for the farmers in the East Slovak region. A second-degree flood alarm was declared for all repumping stations in the East Slovak lowlands and for the sub-Vihorlat water reservoir--the Zemplin Broadlands, where more than 100 cubic meters of water are released per second. A first-degree alarm was declared for the Bodrog River. A very grave situation exists in the fields of the

Michalovce and Trebisov Districts, where 50,000 hectares have been affected by floods, storms, hail and silt and are now awash due to the high level of ground water. The largest part of this acreage consists of more than 27,000 hectares of cereals; and about 7,000 hectares of grain corn and further thousands of hectares of corn for silage, legumina and sugar beet are seriously damaged. Extreme measures were needed for early potatoes: their tops are rotted or moldy, and mold is now also affecting the bulbs, so that manual harvesting is being prepared throughout the area. Cattle had to be gathered from flooded pastures and given substitute fodder, since a large part of meadows and pastures is under water; the bad weather also adversely affects the health of the cattle. In the Trebisov District more than 16,000 hectares of arable land and 10,000 hectares of other agricultural land are flooded. [Prague RUDE PRAVO in Czech 1 Jul 80 p 1]

HARVEST TARGETS 1980--The Plenary session of the Central Committee of the CSSR Cooperative Farmers Union, held on 30 June in Prague, stated that the acreage to be harvested this year in the CSSR consists of 2,695,000 hectares of cereals: 116,000 hectares of edible and fodder legumes; and 87,000 hectares of oil rape. [Prague RUDE PRAVO in Czech 1 Jul 80 p 2]

HARVEST RESULTS--The first harvest of perennial fodder has been completed only in the South Moravian region. More than 90 percent of fodder crops and more than 60 percent of hay from meadows and pastures have been mown in the Czech socialist republic; more than 70 percent of this acreage is in Southern Moravia. In Slovakia 89.3 percent of perennial fodder crops, but only 51.6 percent of hay from meadows and pastures, had been harvested by 30 June. Rains prevented the farmers in Western Slovakia from harvesting more than 17,000 hectares of early potatoes. Rain is also hampering the harvesting of fodder crops in Northern Moravia, where 87.3 percent of perennial fodder crops has been mown, and 58.2 percent of fodder from meadows and pastures. This means a delay of 7-12 days, and the daily targets are not being fulfilled. [Prague PRACE in Czech 1 Jul 80 pp 1, 3]

FLOODS IN BOHEMIA--As the consequence of the rapidly raising level of the river Labe, all traffic on the river had to be halted on the night from 11 to 12 July. Also other Czech rivers are reported to be raising. The hardest hit by floods are the districts Rychnov Nad Kneznou, Usti Nad Orlici and Hradec Kralove, which have absorbed about 17 million cubic meters of water. Holiday-makers and children from summer camps had to be evacuated in some places, and 40 family homes were flooded in 3 villages in the Rychnov area. [Prague RUDE PRAVO in Czech 12 Jul 80 p 1]

RAIN HAMPERS FODDER MOWING--Because of unusually heavy rains, not even the first mowing of fodder from arable land could have been finished in the East Slovak region to date. [Prague RUDE PRAVO in Czech 18 Jul 80 p 1]

CSSR-MONGOLIAN TRADE IN 1979--According to Adalbert Vanko, adviser of the CSSR "Representative Office" in Ulaanbaatar, the turnover of the CSSR-Mongolian goods exchange in 1979 amounted to R22.7 million. [Bratislava PRAVDA in Slovak 17 Jul 80 p 6]

FIRE IN DIESEL ENGINE PLANT--A total of 39 fire-fighting brigades from Prague and the Central Bohemian region fought a fire which broke out in the Diesel Engine Manufacturing CKD Wilhelm Pieck Plant in Prague-Zlichov in the late afternoon hours on 18 July. The fire spread from the production hall into the engineering and technological equipment stores. The fire, which was caused by stored inflammable liquids, destroyed 80 percent of the production hall and impaired its supporting structure. The damage has been estimated at about KCS50 million. There were no injuries. [Prague MLADA FRONTA in Czech 21 Jul 80 p 2]

CZECH GRAIN FIGURES--In the Czech lands this year winter barley will be harvested on 74,000 hectares, spring barley on 640,000 hectares and wheat on 755,000 hectares. [Prague RUDE PRAVO in Czech 21 Jul 80 p 2]

BOHEMIAN FIELD WORK REPORTED--Steady rain in North Bohemia has delayed the winter barley harvest and fodder remains to be harvested from 3,500 of the region's 25,368 hectares of meadows and pastures. Renewed rains also have slowed the fodder harvest in West Bohemia; agricultural machinery cannot be used because of the soggy ground. The situation in meadows to be mowed is "fairly critical." In South Bohemia more than 4,500 hectares of meadows still remain to be mown. The 21 July session of the Regional Harvest Commission drew attention to the "large-scale occurrence" of potato mold: 10 aircraft will be deployed to combat the disease in the region and a special airfield will be established for the Pelhrimov area. In the Central Bohemian region less than 9 percent of the meadows' and pastures' area still have to be mown. [AU231824 Prague LIDOVA DEMOKRACIE in Czech 22 Jul 80 p 1]

MORAVIAN, SLOVAK FIELD WORK--The damage to crops in the North Moravian region caused by floods and--in some places--by hailstorms has been estimated at KCS94 million. Fodder in the region still has to be mown from about 10 percent of the planned area and the gathering of early potatoes is also lagging. In the South Moravian region farmers have to date harvested winter barley on 2,156 hectares, 37.7 percent of the sown area. The harvest of winter barley in the southern districts of the West and Central Slovak regions has ended and the rape harvest has begun. The spring barley has begun to ripen despite the 3-week delay in vegetation. [AU231824 Prague PRACE in Czech 22 Jul 80 pp 1, 3]

HOPS CROP ESTIMATE--More than 10,000 hectares of hops will be harvested in the Czech lands this year. [AU231824 Prague ZEMEDELSKE NOVINY in Czech 22 Jul 80 p 1]

FLOOD ALERTS DECLARED--A third degree flood alert was announced on 21 July in the areas of the Orlice River Basin in Rychnov Na Kneznou and in Dradec Kralove Districts. In Letohrad in Usti Nad Orlici District where the Lukavicky Creek flows, water has flooded some 50 houses as a result of a blocked culvert. A second degree flood alert has been declared in Uhretice in the Chrudim area and a first degree flood alert thus far in the Metuje River Basin in Nachod District. [AU231824 Prague LIDOVA DEMOKRACIE in Czech 22 Jul 80 p 4]

FLOOD SITUATION REPORTED--The level of most rivers in the Czech lands continues to be above normal but the levels of the Orlice, Metuje and Opava Rivers where a flood alarm had to be proclaimed toward the end of last week are creding. In East Slovakia, however, a second degree flood alarm continues to apply to the Bodrog River in the area of Streda Nad Bodrogom and to the Latorica River in the area of Velke Kapusany. In the Michalovce and Trebisov Districts in East Slovakia an area of about 30,000 hectares was flooded. [AU171327 Prague RUDE PRAVO in Czech 16 Jul 80 p 2]

HARVESTING COMMISSION SESSION--At its session in Prague on 15 July the Harvesting Commission for the Czech Socialist Republic noted that the recent rainfall and hail in North Moravia caused at least KCS70 million damage. Crops have been damaged on 16,600 hectares in the resion. Most severely affected have been grain crops, on 6,000 hectares; sugar beets, on 2,300 hectares; and potatoes, on 1,500 hectares. The first mowing of hay from meadows and pastures remains to be carried out on 60,000 hectares in the Czech Socialist Republic; the second mowing of perennial fodder crops has been completed on 5 percent of the planned area of 164,300 hectares to date. [AU171327 Prague MLADA FRONTA in Czech 16 Jul 80 p 2]

FLOOD DAMAGE TO CROPS--Continuous rainfall in Liberec District in North Bohemia has caused serious damage to the crops. The preliminary estimate of damage caused by the floods to roads and bridges alone amounts to KCS2 million in the district. [AU171327 Prague ZEMEDELSKE NOVINY in Czech 16 Jul 80 p 4]

FODDER CROPS HARVEST--By 14 July the Czechoslovak Agricultural Enterprises completed the first harvest of perennial fodder crops on more than 490,000 hectares, which is more than 103 percent of the plan. By the same day the second mowing was completed on about 48,000 hectares, less than 15 percent of the planned area. The first mowing of meadows and pastures has been carried out on only 531,250 hectares so far, which is about 80 percent. Only slightly more than 10,000 hectares of meadows and pastures have been mown for the second time. [AU171327 Prague RUDE PRAVO in Czech 16 Jul 80 pp 1, 2]

FLOODS, RAIN IN SLOVAKIA--Rainstorms in the first week of July caused considerable damage in Eastern Slovakia and in certain areas of Central Slovakia. Up to 60,000 hectares of land, 50,000 of them arable land, are flooded and awash with ground water in Eastern Slovakia; 22,779 hectares of cereals, and almost 9,500 hectares of meadow in the Trebisov District alone, are flooded. In Western Slovakia 25,000-30,000 hectares of cereals, mostly winter barley, have been flattened. The first mowing of perennial fodder crops in Slovakia is less than 95 percent complete; and fodder crops from meadows have been harvested on less than 80 percent of the area in Western Slovakia, 60 percent in Central Slovakia and less than 50 percent in Eastern Slovakia. [AU111315 Bratislava ROLNICKE NOVINY in Slovak 10 Jul 80 pp 1, 2]

HARVEST IN CZECH LANDS--By the end of the first week in July the plan for harvesting perennial fodder crops from arable land had been overfulfilled

4.3 percent. In Eastern Bohemia perennial fodder crops had been harvested 105 percent by the beginning of this week; in Northern Moravia the figure was 96.2 percent on arable land, and about 75 percent in meadows and pastures. South Bohemian farmers have harvested from first harvests perennial grasses for preservation on 2,000 more hectares than expected, but still must harvest some 11,000 hectares of meadows, mostly in mountainous areas--that is 13.5 percent. The plan for clover for hay has so far been 25 percent fulfilled, and for meadow crops 40.1 percent. Rainfall is at present making work very difficult. [AU111315 Prague ZEMEDELSKE NOVINY in Czech 10 Jul 80 p 1]

FLOODS IN CSSR--The level of River Orlice in Eastern Bohemia dropped in the night from 11 to 12 July; the levels of other waterways in the region are also gradually receding. On 13 July the sector of the River Labe between Lovosice and Usti Nad Labem was closed for river transport and the first degree alarm was proclaimed. The reloading station Mariánská Skala in Usti Nad Labem is closed for operations, except those concerning foreign shipping. [Prague RUDE PRAVO in Czech 14 Jul 80 p 2]

ABSENCE FROM WORK--In 1979 a total of KCS20,574.6 million was paid out within the employees' health insurance; this is KCS587.6 million, or 2.94 percent, more than envisaged. Payments for disability allowances amounted to KCS5,500.9 million, that is, KCS238.7 million more than in 1978. Absence from work increased from 4.02 percent in 1978 to 4.08 in 1979; the average daily absence from work amounted to 278,554 employees, which is 7,310 more than in 1978. A total of 233,086 employees were absent from work because of illness, 13,876 because of work accidents and 31,592 because of other accidents. The average duration of sick leave increased to 17.7 days, as a result of the laxness of control departments. From January through May 1980 the disability allowances paid out amounted to more than KCS300 million; the average number of employees absent from work because of illness or accident during this period amounted to 359,019, compared with 325,795 in 1979, whereby absence from work in the Czech lands amounted to 5.03 percent, and to 4.26 percent in Slovakia, which is almost 0.5 percent more than last year. [Prague PRACE in Czech 11 Jul 80 p 5]

CSO: 2020

ECONOMIC PLAN FULFILLMENT FOR FIRST HALF OF 1980 REPORTED

East Berlin NEUES DEUTSCHLAND in German 12-13 Jul 80 pp 3-4

[State Central Administration for Statistics Report on Fulfillment of 1980 Economic Plan for First Half Year]

[Text] Thanks to many initiatives and the strenuous efforts of the working people involved in the implementation of the 1980 economic plan, the first half of the year was notable for the achievement of outstanding performances in the zealous realization of the resolutions adopted by the Ninth SED Congress for the welfare of the people and the strengthening of socialism as well as for the preparation of the Tenth SED Congress. The stable and dynamic growth of the economy continued and, in some sectors, even speeded up. In the course of the socialist competition honoring the Tenth SED Congress all sectors accomplished the assignments of the economic plans and in fact exceeded them in important areas. The plan advance achieved for industrial goods production amounted to the output of 1.2 days. The benefits of socialism were more and more comprehensively utilized, and further progress was recorded in the implementation of the program of full employment, public prosperity, growth and stability. This is to be valued very highly indeed in view of the changes in foreign trade conditions, which confronted the socialist economy of the GDR with another great challenge.

The Eleventh and Twelfth SED Central Committee Plenums and the Central Committee Secretariat's meeting with the first secretaries of kreis leadership organizations inspired creative actions. The mass struggle of the working people for a strong rise in output and featuring the slogan "The Best for the Tenth Party Congress! Everything for the Welfare of the People!" reflects the advanced political consciousness and profound confidence of the working class, cooperative farmers, intelligentsia, women, juveniles and all other working people in the tried and tested policy pursued by the Socialist Unity Party of Germany.

By their outstanding performances the working people honored the 35th anniversary of the German people's liberation from Hitler fascism by the glorious Soviet Army.

Increased attention was devoted to the qualitative factors of economic growth in the socialist competition organized by the labor unions as well as in the directives issued by the state and economy managing organs. Success was achieved in improving the cost/output ratio. Most of the performance growth was obtained by energy and raw material conservation, and in many sectors productivity was raised faster than in previous years.

The results of science and technology fundamentally determined the growth of productivity, the efficiency and quality of production. Modern technologies and processes for saving working hours and manpower as well as definitely lowering materials and energy expenditure were more quickly introduced to production. In many production processes microelectronics and automation were consistently applied. That helped a great deal toward using scientific-technological results for the rationalization push and the lowering of materials, raw materials and energy consumption. The material-technological base of the economy was reinforced as planned.

The advance in output and efficiency made it possible to secure that which had been achieved by economic and social policies and further to improve the people's material and cultural standard of living.

Struggling for efficiency on a new basis and with improved results the combines have made a vital contribution to the stable and dynamic growth of the national economy. More and more they proved their worth as a type of modern management organization for socialist industry and provided a stable pillar for the socialist planned economy. That was confirmed at the exchange of experiences held in Gera between the SED Central Committee, the general directors of combines and the Central Committee party organizers for industry and construction. Here the combines entered into the common obligation to earn 2 days output of industrial goods production in addition to the targets of the 1980 economic plan, and to do so largely by way of materials conservation. This corresponds to a volume of industrial production worth more than M2 billion.

The fraternal alliance with the Soviet Union and the GDR's indissoluble ties with the socialist community of nations offer a firm foundation for our national economy. On the basis of coordinated plans and the realization of the program of specialization and cooperation of production between the GDR and the USSR through 1990, the interlocking of the two countries economies has greatly advanced. Cooperation with the member countries of the Council of Economic Mutual Aid has been expanded as per the resolutions of the Ninth SED Congress and the CEMA Complex Program.

Taking their proper place in this satisfactory account are the achievements of our youth, especially the youth brigades, and the successes of the "Join in!" competition organized by the National Front of the GDR.

The following main results were recorded in the first 6 months of 1980 by comparison with the same period of the previous year and with regard to the

implementation of the 1980 economic plan:*

-- The gross national product rose by more than 5 percent. By their initiatives the working people in all sectors of the economy achieved or exceeded the planned contribution to the gross national product. In the conditions of greatly increased import prices for energy and raw materials this result again provides evidence for the increased capacity of the socialist national economy.

-- The industrial goods production of the national economy rose by more than M10 billion. That corresponds to a 5.9 percent production growth, including 6.1 percent in the sphere of the industrial ministries. This represents a speed-up of the rate of growth by comparison to the same period of the previous year. In the course of the socialist competition honoring the Tenth SED Congress industrial goods production exceeded the plan by M1.7 billion; this was achieved largely by materials conservation.

-- We succeeded in making more effective the qualitative factors of economic growth. The plan of net production in the sphere of the industrial ministries was fulfilled to 104.6 percent.

   The planned reduction in basic materials costs was achieved. Moreover the basic materials costs per M100 goods production were 1.3 percent lower than planned. Specific energy and materials consumption for the production of items important to the economy was lowered more rapidly than in the same period of the previous year.

-- Productivity in industry rose by 5.7 percent. This important rise in economic performance is reflected especially in the fact that output per worker rose by 6.7 percent.

-- The output of products with the "Q" quality mark rose by 24 percent or M3.5 billion; the plans were fulfilled to 105 percent.

-- More transfer assignments of the plans science and technology were completed than planned. This provided good prerequisites for future advances in performance and efficiency.

   About 90 percent of the improved productivity recorded in industry are due to the more extensive utilization of the results of science and technology.

-- More than M21 billion were invested for the planned reinforcement of the material-technical base and the continued pursuit of the sociopolitical program. Investments in the spheres of the industrial ministries rose by 9 percent. They were directed more emphatically to the enforcement of socialist rationalization.

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* Preliminary data

-- The production of the construction industry rose by 3.7 percent to M17.3 billion. The working people in construction have succeeded in further improving efficiency. The planned net production was achieved to 102.9 percent; the planned basic materials costs per M100 production of the construction industry were not fully incurred.

77,818 housing units were built or modernized, exceeding the plan by 2,669. The public got 3,697 housing units more than in the first half of 1979. Housing conditions improved for more than 230,000 citizens.

-- The transportation system carried 35 million tons (7 percent) more goods than in the same period of the preceding year. The working people in transportation thereby provided an important contribution to the growth of the national economy.

-- The working people in socialist agriculture fulfilled or exceeded the planned state yield for all products of animal production. Animal stocks developed as planned. Spring cultivation was qualitatively satisfactory.

-- Great efforts by the working people secured the necessary large exports. On the basis of the increased capacity of the national economy and intensive marketing efforts by the production and foreign trade enterprises GDR exports rose by 16 percent. The foreign trade turnover with the USSR rose by 14 percent. Two thirds of the foreign trade turnover involved the CEMA countries.

-- The net cash earnings of the people increased by M1.7 billion or 3 percent.

-- Retail trade turnover rose by 5.7 percent and amounted to M47 billion. The plan for the manufacture of finished goods for the public was exceeded in all industries and fulfilled to 101.9 percent. The availability of some important foods and industrial goods has considerably improved. Services to the public grew by M90 million.

-- State services and subsidies from social funds for the housing construction program as well as for the administration and management of the housing stock, the assurance of stable prices for basic goods and fares for the public as well as other subsidies amounted to M26.7 billion, an 8.7 percent increase.

-- In public education instruction and communist training have been perfected and material conditions improved. New construction provided 754 classrooms and 4,864 kindergarden places.

-- The medical and social care of citizens was further developed as planned; 145 mobile medical and dental jobs as well as 4,218 creche places have been added.

180,000 citizens were sent to spas for curative, convalescent or preventive treatment.

-- Our sportsmen and women achieved considerable successes abroad, and the popular sports movement gained in depth.

-- Artists and cultural creators provided new works and thereby made a large contribution to the enrichment of intellectual-cultural life.

Berlin, the capital of the GDR, has continued to be purposefully equipped so as to be the political, economic and intellectual-cultural center of the socialist GDR. Actively involved in this achievement were working people from all bezirks and spheres, especially the 12,000 young people engaged in the "FDJ Initiative Berlin."

Tasks relating to defense and internal security were taken care of as indivisible elements of the economic plan.

I. Industry

The targets of the economic plan were exceeded month by month as a result of the socialist competition. The plan advance with regard to industrial goods production achieved a volume of M1.7 billion.

Industrial goods production rose by 5.9 percent or more than M10 billion. The plan of industrial goods production for the economy was fulfilled to 101.0 percent.

Goods production in the sphere of the industrial ministries grew by 6.1 percent or M9 billion. The enterprises in the sphere of the industrial ministries accomplished the state plan targets of industrial goods production to 100.9 percent. This overfulfillment corresponds to the output of 1.2 work days. All sectors subordinated to industrial ministries have overfulfilled the plan of industrial goods production and net production. The efficiency planned was generally achieved or exceeded.

The net production target in the sphere of the industrial ministries has been met to 104.6 percent. The rise in output was achieved with less growth in the consumption of raw materials, materials and energy than provided for in the plan. Basic materials costs per M100 goods production fell 1.3 percent below the plan. The reduction in production consumption made a decisive contribution here, and so did the improvement of performance.

Enterprises in the Sphere of the Ministry for	Fulfillment of the State Plan Target of Industrial Goods Production for the First Half Year
	Percent
Coal and Energy	100.5
Ore Mining, Metallurgy and Potash	100.9
Chemical Industry	100.9
Electrical Engineering and Electronics	100.7
Construction of Heavy Machinery and Equipment	100.9
Construction of Machines Tools and Processing Machinery	100.6
Construction of General Machinery, Agricultural Machinery and Vehicles	100.9
Light Industry	101.0
Glass and Ceramics Industry	102.1
District Managed Industry and Foodstuffs Industry	101.0
Geology	103.6

A further rise was recorded in the total of combines and enterprises which reliably fulfill their production plans each month and steadily expand their plan advances. Among the 115 industrial combines and VVB's [associations of state enterprises] 111 have fulfilled the plan of industrial goods production and net production, 105 exceeded it. Sixteen combines managed a 10 percent or more rise in industrial goods production and net production, including Agrochemie, Buna Chemical Works, Robotron, Carl Zeiss Pumps and Compressors, ORSTA Hydraulics, Microelectronics, Fritz Heckert Machine Tool Combine, Herbert Warnke Processing Equipment, Werner Lamberz Printing Machinery and Rail Vehicle Construction.

Planned industrial goods production in the scope of the bezirk economic councils was fulfilled to 101.0 percent, accompanied by a 4.7 percent rise in output.

The planned sale of finished products for the public was exceeded in all industries and fulfilled to 101.9 percent. The excess output is equivalent to 1.420 billion. Produced were new and further developed consumer goods for the supply of the public, with better functional value and ease of operation as well as attractive design. Some enterprises did not at all times observe their contractual obligations to the inland trade with respect to assortment and delivery dates.

Supplies of fuel and energy to the economy and the public were guaranteed. Energetic direction and many initiatives of the working people helped toward the thrifty use of energy and a decline in energy demand in all sectors of

the economy. Production plans were exceeded for city gas, raw brown coal, brown coal briquettes, brown coal coke and hard coal coke. Strip mining yielded raw brown coal in excess of the plan targets.

The production targets for the majority of important raw materials and components have been fulfilled or exceeded. Above average output development --corresponding to the plan--was recorded for many items such as pig iron, high-grade zinc, ethylene, pumps, hydraulics, glass fiber and glass fiber products, cellulose, veneers for the furniture industry, fiberboard and optical glassware.

Excellent production growth was achieved with regard to important machines and equipment of the utmost importance for rationalization and exports; the same holds true for various consumer goods.

Output Development for Important Products in the First Half of 1980 Compared to the First Half of 1979

Product	Percent
Electric energy	102.4
Raw brown coal	100.4
Brown coal briquettes	105.3
Finished rolled steel products	103.3
Products of metallurgical further processing	104.1
Steel pipes of the second processing stage	110.2
Cement	108.8
Thin-gauge plate, hot rolled	104.9
Cold rolled strip (total)	105.7
Potash fertilizer	101.0
Polyvinylchloride	140.2
High-density polyethylene	156.4
Synthetic fibers	104.7
Electrical fittings	104.7
Semiconductor elements and electronic components	119.7
Cutting machine tools	110.8
Cold forming machine tools	115.6
Plastic and rubber processing machines	108.9
Machines and equipment for the textile, clothing and leather industry	113.3
Farm machines	107.8
Fittings	108.6
Industrial gears	110.5
Roller bearings	109.0
Low voltage switchgear	109.6
Devices and appliances for testing, regulation and control	108.0
Furniture and upholstery	106.3
Knitted outerwear	102.9
Hosiery	101.4
Household washing machines	105.5

Bicycles	98.7
Household refrigerators	103.0
including: household freezers	109.5
Gas stoves	116.8
Textile floor covering	102.9
Household and catering industry china	118.5
Outdoor footwear	101.9

The qualitative factors of economic growth became more effective for the development of output.

Productivity rose by 5.7 percent. More than 90 percent of production growth resulted from improved productivity. Thirty-eight of the 115 combines and VVB's improved productivity at a faster rate than industrial goods production. Increases of 10 percent and more were recorded by combines such as the Wilhelm Pieck Mansfeld Combine, Buna Chemical Works, Agrochemie, Karl Liebknecht Heavy Machine Construction, Fritz Heckert Machine Tool Combine, Robotron, Werner Lamberz Printing Machines, Glass and Ceramics Machine Construction, Synthetic Leather and Fur Processing.

The qualitative standard of industrial production was further improved. The output of products granted a quality mark rose faster than industrial goods production as a whole, that receiving the "Q" quality mark by 24 percent. As a result 23 percent of industrial goods production subject to testing now carries the highest quality mark. Involved in this satisfactory result are especially the 465 enterprises which bear the title "enterprise of distinguished quality work." The costs for rejects, reworking and warranty services were less than planned.

Internal enterprise construction of rationalization aids rose by 16 percent. The total of the plan was exceeded, and the majority of combines contributed thereto. In-enterprise construction of special rationalization aids for the intensification of production processes is valued at more than M1 billion. Several combines increasingly constructed rationalization aids to mechanize and automate ancillary processes and assembly. The construction output of industrial enterprises with their own construction departments rose by 10 percent.

Many initiatives in the socialist competition and the application of scientific-technological results contributed to advances in materials management. The specific use of energy was lowered by 5 percent in the sphere of the industrial ministries. Planned consumption was cut for important types of energy such as electricity, long-distance heating, diesel fuel and fuel oil. The metal processing industry observed or cut down the planned specific consumption of rolled steel.

Progress has also been made in the collection and utilization of secondary raw materials. The introduction of higher purchase prices for scrap, waste paper and returnable glass bottles helped in this respect. The yield of

scrap steel from households grew by 40 percent, that of waste paper by 6 percent. Good results were achieved by the action organized by the FDJ and the Ernst Thaelmann Pioneer Organization "More Secondary Raw Materials for the National Economy."

The average utilization of production plant amounted to 14.9 hours per calendar day. However, some differences still persist in the utilization of production plant by technologically comparable enterprises and combines, and this indicates further reserves of capacity.

Overall the planned costs were not totally incurred. Ninety-one industrial combines and VVB's kept to or undercut the planned cost ratio, achieving cost savings in the amount of M550 million. This includes 17 combines which lowered their prime costs by 1 percent or more vis-a-vis the plan. The generally satisfactory result was somewhat vitiated by the fact that some enterprises exceeded the cost standards.

The working people in the geological industry accomplished the planned exploration of deposits of domestic mineral raw materials and underground water supplies. The planned daily demand for natural gas produced in the GDR was met.

The water management enterprises ensured the public supply of potable water and the availability of water for the national economy. The work of reconstruction and expansion of the supply facilities proceeded as planned. Socialist intensification in the utilization of existing plant achieved some progress. The capacity of the water industry was expanded by 40,000 cubic meters per day.

II. Science and Technology

The results of science and technology crucially affected the growth of productivity, efficiency and product quality. Significant scientific-technological achievements provided further important bases for the more rapid growth of production in the national economy.

Since the beginning of the year the assignments of the state plan science and technology have been completed as planned. The majority of enterprises and facilities fulfilled the enterprise plans science and technology.

Further risen has the number of scientific-technological performances at the highest possible standard and suitable for helping determine progressive international standards, thereby providing an increased contribution to the improvement of efficiency and quality. The top performances recorded for the plans science and technology in the first half created the prerequisites for producing by the end of the year an output volume of M5.8 billion, coupled with greater efficiency and improved quality.

Closer cooperation of academic and university research with the research and development centers of the combines helped more quickly and efficiently to transfer in particular those research results which may result in top achievements. Consequently many combines managed to widen their economic utilization of scientific-technological advances, especially with regard to production rationalization.

In some fields the percentage of products and processes at top international standards, leading to greater refinement of raw materials and the greatest possible export profitability of the finished product, still proceeds too slowly, and technically obsolete products, especially those requiring an undue amount of energy, are not superseded quickly enough.

Among improved quality machines and equipment introduced in production are new commercial sewing machines, double-column high-performance presses, coordinate table drilling machines, tooth-flank grinding machines, one-knife cutting machines and improved refrigerated and passenger railcars.

New technologies and processes consonant with the latest technology contributed to the rise in productivity and facilitated steadily improving materials management. Included here is the use of automated forge presses, processes for the chemical reinforcement of utility glassware, for the utilization of wood waste and technologies for the manufacture of stress resistant synthetic fiber thread and laminated thread for Liroflor [trademark] carpets.

Component products introduced to production included high-alloyed cold strip, high-quality PETP granulated material for vido tape backing, new dyes and intermediate dye products for light industry.

The assortment of high-quality consumer goods was expanded. It now includes qualitatively improved household furniture and upholstery, household sewing machines and reflex cameras with electronic controls as well as new assortments of patterned curtains and new and improved uppers for shoes.

Still more efficiency reserves may be developed by overcoming differences still persisting among combines and research facilities in the performance standards of research and technology. This may be achieved by the faster introduction of new products, technologies and processes as well as the increased utilization of the experiences of progressive combines and research facilities.

Some 90 percent of the improvement of productivity in industry are due to the more extensive utilization of the results turned out by science and technology.

Many work collectives have increased their efforts for the purposeful application of scientific findings in the fields of microelectronics, electronic controls and computer technology as well as industrial robots and automation technology. This was particularly important for conversion to modern technologies and processes in crucial industries.

Substantial savings of materials and working hours were achieved in enterprises and facilities by the application of scientific-technological results and measures involving scientific labor organization. Centrally managed industrial, construction and transportation enterprises saved 185 million man hours, 13 percent more than in the first half of 1979. This saving corresponds to the working hours of 200,000 blue and white collar workers in that period of time. Converted or reorganized were 110,000 jobs. At the same time unhealthy and hazardous working conditions were removed for 20,000 workers.

Scientific-technological cooperation with the USSR and other CEMA countries was deepened and contributed to the speed-up in the rate of accomplishment of scientific-technological tasks. The scientific-technological assignments allocated in accordance with government and ministerial agreements between the USSR and the GDR have been completed.

Important results were achieved in the realization of the conception on the long-range development of basic research by scientists at the research facilities of the GDR Academy of Sciences, the other academies and universities, colleges and technical schools, especially by deepening cooperation with combines. Research collectives of the GDR Academy of Sciences helped along the manufacture of flint glass from domestic raw materials and the application of research results from isotope technology. These resulted in considerable rationalization effects.

A major role in the advance of scientific-technological progress was played by the million innovators and rationalizers employed in state industry. The annual profit earned by the innovations introduced amounts to M2.3 billion. In the course of the Fair of the Masters of Tomorrow young people offer a notable contribution to the incorporation of scientific technological advances, and so do the members of the Chamber of Technology.

III. Investments

More than M21 billion were invested in the national economy for the planned reinforcement of the material-technological base of the national economy and the further implementation of the sociopolitical program.

Compared to the first half of 1979 investments in the sphere of the industrial ministries rose by 9 percent, those earmarked for comprehensive housing construction by 6 percent.

Consonant with the strategic importance of the further reinforcement of the energy and raw materials base, some 60 percent of the investments in industry served its ongoing expansion.

Greater concentration of investments on the faster completion of projects has achieved progress in many sectors regarding the improvement of the efficiency and production efficacy of investments.

Important results were also noted following the priority use of investment funds for the utilization of scientific-technological results, especially in microelectronics and automation technology.

More than half the investments in industry were used for the reconstruction and rationalization of existing enterprises. In the metal processing industry rationalization investments accounted for 63 percent of the total, in the light, textile and food industries for as much as 76 percent.

The great rise in the in-enterprise manufacture of industry-specific rationalization aids and the increase in the output of construction departments in industrial enterprises and combines effectively encouraged the necessary rationalization push.

Permanent operations have begun in 137 of the 143 centrally planned capacities completed in the first half of this year. Another 12 capacities began operations although they were not scheduled to do so until the second half.

The growth in goods production achieved in connection with completed investments rose by more than 20 percent.

Among the most important capacities now in service are:

-- For energy and raw materials production the second energy block in the pump storage station Markersbach, the electric steel plant in the Brandenburg Quality and High-Grade Steel Combine VEB, the plant complex for the production of PVC in the Buna Chemical Works VEB, and additional capacities in the strip mines at Groitzschen Dreieck and Delitzsch-Southwest;

-- Capacities for products of electrical engineering and microelectronics such as transmission equipment in the Telecommunication Plant VEB, Leipzig, switchgear, relays and MSR [industrial measuring, control and regulating technology] devices in the Electric Apparatus Works Combine VEB, Berlin, subassemblies and special devices in the Television Electronics Works VEB, Berlin, and the Ceramic Works VEB, Hermsdorf, condensers in the Electronics VEB, Gera, solid-state circuits in the Radio Works VEB, Erfurt and Semiconductor Works, Frankfurt/Oder;

-- Capacities for components, for example for electric motors in the Electric Motor Works VEB, Wernigerode, and in the parent enterprise of the Electric Machine Construction Combine, Dresden, various parts for textile machines in the Spindle and Shuttle Factory VEB, Neudorf, diesel engines in the Diesel Engine Works VEB, Schoenebeck, cast iron and cast steel in the Steel Foundry VEB, Karl Marx Stadt, processed fittings in the Foundry VEB, Ueckermuende, aluminum cable in the Cable Works North VEB, Schwerin, plastic ancillary processing materials in the Chemical Works VEB, Greiz-Doelau;

-- Capacities for investment goods such as electric locomotives and turntables in the Hans Beimler Locomotive Construction-Electrical Engineering Works VEB, Hennigsdorf, strip mining equipment in the Georgi Dimitroff Heavy Machine Construction VEB, Magdeburg, processing machine tools in the Herbert Warnke Processing Machine Combine, Erfurt, farm machines in the Soil Cultivation Device VEB, Leipzig and the parent enterprise of the "Progress" Farm Machine Combine, Neustadt;

-- Capacities for consumer goods such as color television sets in the Television Set Plant VEB, Staasfurt, men's clothing in the Men's Fashion VEB, Dresden, men's shoes in the Meissner Shoe Factory VEB and aluminum foil in the Aluminum Foil VEB, Horsebürg.

By taking into service modern giant warehouses for goods in daily demand and household goods, more possibilities have been provided in the capital Berlin to improve supply stability and the efficiency of retailing.

Extensive investments were recorded in the sector of public education, health care, culture and sports. Among the projects completed are the boarding school in the Cottbus center of education, the auxiliary school in Bad' Doberan, 26 dual-purpose secondary schools, 910 residential places for students at the Bruno Leuschner Advanced School for Economics and the school for clothing machine engineers in Berlin as well as the Pedagogical College in Guestrow, the polyclinic at Magdeburg-Nord and the reconstruction of the open-air theater at Raiswiek.

Continued as planned was work on such important investment projects as the reconstruction and extension of the Charite Hospital, the construction of a sports and recreation center and the reconstruction measures at the Place of the Academy (all in Berlin) as well as the reconstruction of the Semper Opera House in Dresden and the construction of the Gewandhaus Concert Hall in Leipzig.

IV. Construction

Many initiatives by the working people in the construction industry culminated in satisfactory results with regard to plan implementation. The plan of building production was fulfilled to 100.4 percent. A strong impetus was provided by the preparation and conduct of the Seventh Construction Conference which had a mobilizing effect on the construction industry generally.

The output of the construction industry rose by 3.7 percent to M17.3 billion. All centrally managed combines of the construction industry and the locally managed enterprises in 14 bezirks fulfilled or exceeded the production targets. This resulted in a plan advance amounting to M116 million or 1 day's production. The following combines were among those achieving an additional day's production and more while, at the same time, accomplishing the planned net production: Floor Tile and Sanitary Ceramics Combine, Technical

Building Equipment, the construction and assembly combines in Erfurt, coal and energy, the Special Construction Combine for Waterworks Construction and the enterprises in the scope of the construction offices of Erfurt, Frankfurt/Oder, Potsdam and Magdeburg bezirks.

Production of building materials and products of the prefabrication industry rose by 4.0 percent. Important items such as cement, doors, asbestos cement pressure pipes, heating surfaces, wall tiles and sanitary ceramics were manufactured in excess of the plan.

The construction industry assigned greater emphasis to the qualitative factors of production. The plan of net production was fulfilled to 102.9 percent. That happened mainly because of a falling off in the planned basic materials costs per 100 production. Productivity rose faster than provided for in the plan.

As many as 360 transfers to production followed from the state plan and the enterprise plans science and technology. Reserves for further economic growth and greater efficiency and quality are to be expected mainly from overcoming differences in output growth and expenditure in the combines.

In accordance with the requirements construction capacities were used to a greater extent to ensure the unity of new construction, modernization, reconstruction and maintenance.

The planned targets in complex housing construction were exceeded; 77,813 housing units were built or modernized, that is 2,669 more than planned. New construction accounted for 54,401 new housing units, 2,359 more than in the first half of the previous year. A total of 23,417 housing units were modernized. Of this total 6,806 units were built as one-family homes.

The construction of new schools, kindergardens, creches, supermarkets and other community facilities generally proceeded as planned. Some kreises did not manage fully to complete the planned task in the construction of new housing units and community facilities. The extent of building repairs and modernization of residential buildings increased yet again.

The public's contribution to maintenance, the prime objective in the "Join in!" competition, consisted in many initiatives for the improvement of housing conditions.

In the capital Berlin 8,212 housing units were constructed or modernized. In the new district Berlin-Marzahn 3,816 housing units were built. The construction output to be achieved for the capital by the construction enterprises in all bezirks of the republic was generally exceeded. The young construction workers in the "FDJ Initiative Berlin" distinguished themselves quite particularly.

V. Agriculture, Forestry and the Foodstuffs Industry

Cooperative farmers and all other working people in agriculture, forestry and the foodstuffs industry accomplished a great deal for the benefit of the stable supply of foodstuffs to the public and raw materials to industry.

The plan of the state yield was exceeded for slaughter cattle, milk and eggs. Farming made available more products of animal production than in the same period of 1979.

	Fulfillment of the Half Year Plan of State Yield	
	kilotons	to percent
Slaughter cattle	1,124	101.5
Milk	4,014	101.8
Eggs (millions)	2,559	105.7

The development of cattle stocks offers good prerequisites for the further growth of animal production.

	Stocks on	
	20 May 1979	20 May 1980
	1,000 heads	
Beef cattle	5,699	5,763
Cows	2,119	2,126
Pigs	11,638	12,247
Sows	1,226	1,258
Sheep	2,315	2,396
Layer hens (million heads)	26.5	27.5

Through the end of June 131 kilotons of fresh vegetables were purchased, including 41 kilotons of hothouse vegetables.

Cooperative farmers and workers with their own smallholdings provided an important contribution to the public supply of farm produce, and so did members of the Association of the Union of Small Gardeners, Settlers and Small Livestock Breeders

Cultivation, fertilization and plant protection measures were carried out satisfactorily. The cooperative farmers and workers in crop production LPG's and VEG's [state farms] were assisted by the collectives of agrichemical centers and the workers employed by the kreis enterprises for agricultural equipment.

Grain was grown on 2.56 million hectares, potatoes on 519,300 hectares, sugar beet on 256,000 hectares and vegetables on 73,800 hectares.

Cooperative farmers and workers recultivated fields and carefully tended the crops in order to repair the damage done by poor weather conditions especially in April and May.

Production of straw pellets amounted to 486 kilotons, that of silage to 392 kilotons.

The availability of mineral fertilizers for agriculture proceeded as planned with respect to nitrogen, phosphorus, potash and lime.

Soil improvement was the beneficiary of M328 million investments. Facilities were provided to drain another 22,100 hectares and irrigate 15,600 hectares; 7,200 of the latter now enjoy overhead irrigation.

In the first half year the working people of the food industry fulfilled the plan of industrial goods production to 102 percent.

The people working in forestry made available to the national economy 4.6 million cubic meters of solid lumber. They fulfilled the annual plan for the sale of lumber to 51 percent.

In the course of socialist aid intensive efforts are under way in the forests of Karl Marx Stadt, Gera, Dresden, Magdeburg, Erfurt, Halle and Suhl Bezirks in order to prepare snow barriers and windbreaks.

The maintenance enterprises of agriculture, forestry and the foodstuffs industry achieved performances to the value of M916 million; the half year plan was overfulfilled.

VI. Transportation, Posts and Telecommunications

The working people in the transportation industry carried 35 million tons of goods more than in the same period of the preceding year. That represents a 7 percent rise. The transport needs of the national economy were met.

The railroad carried 155 million tons of goods, 6.3 percent, more than in the first 6 months of 1979. The transport plans for important goods such as coal, metals and fertilizers, were exceeded.

Better cooperation with the production enterprises succeeded in achieving the improved utilization of freight cars. Still, not all enterprises contributed to the speed-up of the freight car turnover by smooth-running loading and unloading.

To improve rail transport 44 km of second tracks were laid. The transport performance achieved by modern locomotives amounted to 91 percent.

Public motor transport and the factories own trucks carried all goods ready for delivery. Important in this achievement was the more rational utilization of vehicles by the work of the factory transport collectives.

Handling operations in GDR ports speeded up, and the plan of transshipment was exceeded. By comparison to the same period of the previous year 9.8 million tons or 18 percent more goods were handled.

Public transportation carried 2 billion passengers. Passenger transportation was improved by more new wide-bodied buses from the Hungarian People's Republic and streetcars from Czechoslovakia. In commuter traffic the greater frequency of vehicles, traffic technological and organizational measures as well as new routes helpd cut commute times.

Pursued as planned were the traffic developments in connection with the housing construction program.

Compared to the first half of 1975 postal and telecommunication services rose by 2.3 percent. Newly installed were 15,000 telephones, including 12,000 in residential premises. The percentage of telephone calls routed by automated switchboards rose to 94.6.

The television service transmitted 83 percent of its programs in color. Ultra short wave radio transmission offered 249 hours weekly in stereophonic sound.

VII. Foreign Trade

Due to the increased economic strength of the GDR and the notable achievements of the working people in production and foreign trade enterprises goods exports rose by 16 percent.

Consequent upon the steadily deepening socialist economic integration our goods turnover with the USSR and the other CEMA member countries increased as planned. Holding a two thirds share in the GDR's total foreign trade it represented the stable base of our republic's economic growth. The measures for the long-range assurance of the raw materials, fuel and energy base of the national economy, initiated jointly with the fraternal countries, became increasingly effective. As a consequence of coordinated plans and the realization of the program of specialization and cooperation of production between the GDR and the USSR through 1990, the interlocking of the two countries national economies has advanced. Foreign trade turnover with the USSR increased by 14 percent.

Exports to the developing countries grew by 38 percent. Trade relations with these countries featured long-range cooperation in economic and scientific-technological fields for the reciprocal benefit of all involved.

Exports to capitalist industrial countries rose by more than a third. In the conditions of increased crisis, growing monetary deterioration and speeded-up inflation, coupled with more serious competition and noticeable trade restrictions on the capitalist world market, the substantial rise in exports represents a remarkable achievement by the working people in the production and foreign trade enterprises. In some sectors the rate of progress toward the fulfillment of the challenging annual plan targets is still inadequate. It will be imperative especially to raise export profitability and further improve the export structure.

VIII. Development of the Material and Cultural Standard of Living

The material and cultural standard of living achieved earlier was secured and gradually further improved on the basis of the stable and dynamic growth of the national economy. The social policy decided upon by the Eighth and Ninth SED Congresses was again successfully pursued.

The construction and modernization of 77,818 housing units improved living conditions for more than 230,000 citizens, especially workers, large families and young couples.

The growth in the birth rate continued in the first half year. Births totaled 124,975, 6,168 more than in the same period of the preceding year.

Net cash earnings of the people increased by M1.7 billion or 3 percent. Subsidies paid from the social funds toward social security payments rose by more than 10 percent due to the pension increase which took effect in December 1979. In 1979 the average end of year bonus per blue and white collar worker amounted to M817 in centrally managed enterprises subordinated to the industrial ministries.

State subsidies and aid from social funds for the benefit of the housing construction program and the administration and management of the housing stock amounted to M4.1 billion; M7.6 billion were spent on ensuring stable prices for basic goods and fares. Altogether the social funds of the state made available M26.7 billion, 8.7 percent more than in the first half of 1979.

Retail trade turnover grew by M2.5 billion to M47 billion, a 5.7 percent rise. In the case of industrial goods retail turnover increased by M2 billion or 9.3 percent, of essential and nonessential foods by M0.6 billion or 2.4 percent.

The public supply of basic foods, the majority of articles in daily demand and products for children and the 1,000 small items was ensured.

Compared to the first half of 1979 the volume of goods availability changed

for	to percent
Meat, meat products and sausages	102
Poultry	103
Fish and fish products	108
Full-fat cheese	103
Liquor	106
Coffee (roasted)	104
Full-fat milk	100
Fresh fruit	130

The targets of the supply plan were achieved and in some cases exceeded for the large majority of industrial consumer goods.

Notable rates of increase in the availability of goods were achieved for the following industrial goods:

Increase in the volume of goods made available by comparison with the first half of 1979	to percent
Color television sets	135
Ladies wrist watches	131
Solid fuel heaters	106
Electric stoves	106
Vacuum cleaners	113
Household aluminum ware	121
Household china	119
Ovenproof household glassware	116
Kitchen furniture	109
Men's shoes	108
Floorcovering with and without underlay	114
Leather and synthetic leather clothing	123

An adequate supply of outerwear and knitted outerwear was available for the spring-summer season and the Youth Consecration. Further progress was made in the supply of high-quality technical consumer goods and other durable industrial goods, although it was not yet possible to meet the steadily growing demand. That applies to, for example, color television sets, household freezers and reflex cameras.

Services and repairs for the public steadily improved. Repairs of high-quality technical consumer goods rose by 7 percent, of refrigerators, washers and gas appliances by 8 percent. Dyeing and cleaning enterprises

...grew their output by 4 percent. Automobile maintenance services grew by 12 percent. The availability of replacement parts, though, was not always satisfactory.

Service centres such as that of Karl-Marx-Stadt Bezirk succeeded in substantially cutting waiting times by introducing extensive rapid, evening and weekend services. They also extended the range of services offered.

Crafts made a substantial contribution to the improvement of services. Cooperative craft enterprises raised their services to the public by 6 percent, private craft enterprises by 5 percent.

In public education educators and instructors concentrated on the further improvement of the secondary school, on deepening its polytechnic character and perfecting the communist education of children and young people.

Material and personnel conditions for the all-round education and training of students improved steadily. Provided were 754 new classrooms, 46 gymnasia, 4,844 kindergarten places, 3,550 day boarding and 494 boarding school and dormitory places.

Many enterprises of industry, construction and farming purposefully improved the efficacy of polytechnical instruction. About 1 million students in grades 7-10 received polytechnical instruction in 5,200 enterprises. They were looked after by 31,250 skilled workers, instructors and engineer-teachers in the enterprises.

Student involvement in study groups remained at the same level, that in school sports teams and training groups of the GDR Gymnastics and Sports Federation increased.

Three quarters of all students participated in school meals, two thirds in the hot meals.

The facilities for occupational training improved their educational and instructional results. Apprenticeships were available for all school leavers; 98 percent of school leavers entering vocational training are graduates of the 10th grade of the general polytechnical secondary school. Provided for municipal and industrial vocational schools were 62 classrooms and 2 gymnasia as well as 1,367 places in apprentice dormitories.

Colleges and universities purposefully improved the quality of education and instruction on the basis of the new and precisely defined curriculums. The standard of teaching was further improved. The students recorded greater achievements in the independent accomplishment of scientific assignments. The SED Central Committee Politburo's resolution on the "tasks of universities and colleges in the developed socialist society" provided a strong impetus for universities, colleges and technical schools. This is demonstrated in the results of the FDJ student days and the achievement shows at college facilities.

To improve working, studying and living conditions 910 new dormitory and 170 seminar and work places were constructed.

The staffs of the health care and social welfare agencies achieved further progress in the care of the population. Basic outpatient care, especially in family practice, pediatry, gynecology and stomatology has improved as per the plan. In the first half of the year 145 additional medical and dental jobs were filled for the benefit of outpatients.

More progress was also recorded in the medical care of workers on the job. Preventive checkups and measures were carried out as planned. In the first half of 1980 130,000 citizens were sent for curative, convalescent or preventive treatment in spas. 4,215 creche places were added. For senior citizens and those in need of nursing care another 1,765 beds in rest and nursing homes were provided as well as 650 places in residential homes.

The Labor Union vacation services began operating new facilities with a total of 957 beds. These include the Wolin residential vacation home in Binz, the Zechliner Huette vacation village and the residential vacation home in Cursdorf.

GDR sportsmen brought home nine gold, seven silver and seven bronze medals from the Winter Olympics and achieved many other good placings. This was the best ever result. In recent months the efforts of our best athletes concentrated on the preparations for participation in the Moscow Olympic Games.

The mass nature of sport was visibly reflected in the competition of the people's sports and club movement. More than 200,000 children and young people participated in the preliminaries, and the children and youth Spartakiads for winter sports were held in kreises and bezirks.

The successful development of intellectual-cultural life and artistic creation continued by way of many actions. Artists and cultural creators provided new works to enrich intellectual-cultural life.

In the first half cultural life featured especially the 35th anniversary of our liberation from Hitler fascism. By the Fifth Festival of Friendship between young people in the USSR and the GDR the FDJ impressively honored this anniversary as well as the 110th anniversary of V.I. Lenin's birth.

In Rostock Bezirk 16,000 amateur and professional artists organized the 10th workers' support and festival of culture of socialist agriculture and forestry. Nearly 1,700,000 working people enjoyed this impressive show of working class cultural creativity, which also provided a broad forum for the exchange of experiences about the development of intellectual-cultural life and served as a true popular festival of socialist culture and art.

The "Days of USSR friendship and culture in the GDR," especially the inspiring guest appearances of the USSR State Academic Grand Theater, the Moscow classical ballet, the dance and choral ensembles of the USSR Ministry of Internal Affairs and the "Alan" State Popular Art Ensemble of the North Ossetian ASSR offered impressive artistic experiences. On this occasion many events were organized, in some instances together with Soviet artists and cultural creators.

Much international renown accrued as a result of the tours by the Leipzig Gewandhaus Orchestra in Latin America, the Berlin German State Opera in Spain and Japan, the Berlin Comic Opera in the FRG, the Leipzig Opera in Italy and Britain, and the dance ensemble of the Comic Opera in Australia.

Other outstanding events in our intellectual cultural life were the second festival of popular artistic creation in socialist countries, the fourth congress of people involved in the theater, the national movie festival in Karl-Marx-Stadt, the week of the book, the GDR music days in Berlin, the Dresden music festival, the competition of entertainers, the days of popular art in Halle Bezirk held in the Palace of the Republic, the fifth festival of German culture, the tenth festival of political song, the Intergrafik Fair and the Leipzig International Book Fair.

Cultivation of the humanist cultural heritage had a most prominent role. It was demonstrated by the Shakespeare days in Weimar, the events organized in honor of the 175th anniversary of Friedrich Schiller's death, the Brecht days in Berlin, the international Bach competition in Leipzig, the Robert Schumann days in Zwickau and the Haendel festival in Halle.

The setting up of the GDR Martin Luther Committee, chaired by Comrade Erich Honecker, general secretary of the SED Central Committee and chairman of the Council of State, initiated the forthcoming celebration of the 500th anniversary of Martin Luther in 1983.

Some 7,400 new books (61 million copies printed) and 9.7 million records and tape cassettes enriched the stocks of the retail trade and contributed to the further satisfaction of the citizens growing cultural needs.

The results of economic development in the first half of 1980 demonstrate how great are the energies liberated by SED policy for the steady improvement of the use of the benefits of socialism for the welfare of man.

The initiative of the party and the working people in the implementation of the Tenth SED Congress resolutions provided the impetus for securing that which was already been achieved and for continuing gradually to improve the material and cultural standard of living of the people. It will be most important in the further implementation of the 1980 economic plan substantially to raise the economic capacity of the GDR and, at the same time

everywhere endeavor to speed up scientific-technological progress, the crucial link in the chain of the ongoing stable and dynamic development of the national economy. In the socialist competition honoring the Tenth SED Congress it will be imperative daily to fulfill and purposefully exceed the plan.

We must have more top quality finished products appropriate to demand. It is crucial to improve productivity to a greater extent than has been the case, to save working hours and manpower, substantially to improve energy and materials management, to achieve a greater profit from each hour of work and each gram of material. It is therefore vital even more rapidly and effectively to generalize the experiences of the best and make them the basis of everybody's actions.

Insofar as the working people conduct the broad struggle of the masses for the all-round strengthening of the republic with the slogan "The Best for the Tenth Party Congress! Everything for the Welfare of the People!," they simultaneously strengthen the international status of the GDR and make their contribution to peace and detente.

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DEVELOPMENT OF ROSTOCK TRANS-ATLANTIC HARBOR OUTLINED

East Berlin SEEWIRTSCHAFT in German Vol 12 No 5, May 80 pp 219-222

[Article by Dr Andry Danitz, economist, Chamber of Technology (KDT), VEB Rostock Harbor: "Twenty Years for Rostock Trans-Atlantic Harbor: Past and Future Marked by Continuous Expansion of Capacity"]

[Text] The development of the Rostock trans-Atlantic harbor is marked by a high rate of growth in capacity and quality of goods transshipment, solidly based on high and stable profitability and efficiency and on continuous technical-technological development. A 20th enterprise jubilee, such as that being celebrated this year by the Rostock trans-Atlantic harbor, provides the occasion to highlight the development--the political, economic, technical, territorial and social factors of the past and future.

In view of its favored economic situation, on the one hand, because of the geography of transportation it is extraordinarily well situated in the transit feed sector of central and southern Eastern Europe and in the Baltic Sea region, and, on the other hand, because of the steadily growing volume of GDR foreign trade which continues to exceed the practical capability of the harbor, the daily operation of the harbor justifies its existence and the steady expansion and modernization of its facilities. The decision by the GDR government in 1957 to build the trans-Atlantic harbor turned out to be both correct and necessary in every respect.

Literally "conjured up from nowhere" with enormous effort and in record time at the gates of Rostock on the so-called Breitling, the estuary of the Warnow River, the harbor has been providing service, which although modest, has nevertheless been attractive, since 1960 following its dedication on 30 April. First of all, it has done more than supplement the transshipping capacities, which no longer meet demand, in the Wismar and Stralsund harbors and in the old Rostock city harbor; it has also provided the only economic alternative to reduce the transshipment of goods in foreign ports, which was additionally linked with extensive costs for advance and follow up transits. Since that time capacities have been systematically further developed. This became apparent in the rapidly increasing transshipping volume; in this connection, there were necessarily certain changes in the structure of the kinds of goods (Table 1).

Table 1. Transshipment Capacity (in kt) in Rostock Harbor, 1960-1979

Year	Volume of Transshipping by Kinds of Goods				Ships Processed
	Total	General Cargo	Bulk Cargo	Liquid Cargo	
1960	1406,1	1077,6	243,8	84,7	1400
1965	5897,0	1978,0	1647,0	1272,0	1710
1970	10138,2	2636,4	4326,1	3175,7	2467
1975	12312,0	3601,0	4853,0	3858,0	2896
1977	11826,1	4289,2	5851,2	1685,7	2748
1978	12867,9	4613,9	6776,2	1477,8	2780
1979	13650,0	4620,8	7202,4	1826,8	2662

Rostock harbor was designed as a genuine universal harbor. In particular, it achieved enormous importance through its home port function for the GDR fleet, which has been steadily increasing, and by handling a total of 17 regularly scheduled lines with about 800 sailings each year. Beyond that, it was Rostock harbor adapted properly to the changing conditions of the array of types of goods and to the scientific-technical progress in the technology of transport, transshipping and storage. It is a harbor where, for understandable economic motives, in many respects pioneering achievements were accomplished in introducing efficient methods of transport and transshipping.

In general cargo sector, as the most labor-intensive area of activity, they succeeded in substantially increasing the share of the goods flow in load units, even if inadequately. There were substantial successes in cement export; container traffic and especially roll-on/roll-off [ro-ro] traffic on various routes--but chiefly with the Soviet Union--developed at a rapid rate.

A large share of the general cargo transshipping volume is accounted for by metal imports which, in addition to the handling of scheduled service, cement export and container traffic (in 1979 approximately 40,000 containers were processed for ocean shipping), represent the key focus of the work on Pier II. Open storage space of 155,000 m^2 and covered storage space of 85,000 m^2 and the technical-technological outfitting with general cargo cranes with a capacity of up to 63 open storage and about 8,000 m^2 of covered storage, offers by way of comparison lower capacities, but nevertheless has a specialized character in view of the fact that primarily bulk goods, such as wood and pig iron as well as southern fruits, are transshipped here. In addition, there is the ro-ro traffic here which is expanding significantly--this includes large-scale import and export of vehicles--and there is a specialized transshipment site for grains and feeds with two floating suction lifts. The latter represents an intermediate solution. The grain elevators, which were put into operation in 1976 and have a discharging capacity of 300 tons per hour, are used

exclusively in direct transshipment and, in spite of this scarcely normal form or organization, achieved a volume of 1.9 million tons of goods transshipment in 1979 by utilizing all technical and labor-organizational capabilities.

Basic solutions specifically for transshipping grain, feed and fish meal were and are being pushed forward with great intensity so that after 1982 a specialized, completely new harbor section with its own silo capacity will be available, located between the bulk cargo pier and the petroleum wharf. At the same time, this will make possible additional substantial expansion for handling general cargo on Pier I. The design for this has already been completed. Expansions, which this area will make possible beyond this on a large scale, concern the section in the southern part of the Warnow pier and are under construction. This is a matter of urgently needed additional storage areas, packing sheds and pertinent extensive technical facilities.

Interesting and significant steps toward developing capacity and efficiency in the overall operation were and are being accomplished in other areas of the harbor. Thus, two of three berths available to the petroleum wharf were equipped with the most modern unloading systems in 1978, permitting capacities of up to 4,000 m^3 per hour. All other interests, for example, the environmental protection requirements of the Baltic Sea Convention, were included in the comprehensive reconstruction of the petroleum wharf. Buffer storage capacity in the form of a harbor tank farm of over 100,000 m^3 and adjoining industrial tank farms guarantee the smooth processing of tankers of up to 45,000 deadweight tons and the transport of liquid cargos via pipeline to inland areas. Of particular importance is the ballast water processing plant which has just been put into operation and which is used to purify oil-polluted discharges from shipping and other sectors. In respect to the transshipment of chemicals--apart from petroleum and "white goods"--very concrete tasks for the future are taking shape. In the formation and further development of an extensive harbor-dependent industry, for which there are favorable economic and territorial prerequisites in the Rostock territory, the chemical industry will play an important role and will be integrated into oceangoing transport. This will cause a significant change in the character of the "pure" petroleum wharf in the next few years, and a versatile chemical harbor will be developed.

Bulk cargos, chiefly iron ores, coal and apatite, have a decisive share in the volume of goods transshipment. Three berths equipped with bridge cranes and a ship unloader are available for handling these goods at Pier III. The capacity of this sector of transshipping was expanded by making operational the GDR/CSSR integration project for an ore/coal transshipping facility, which was designed in terms of modern technological aspects and guarantees removal of goods independent of ship processing--an aspect which should not be underrated for guaranteeing stable, continuous supplying of industry inland. There are also similar expansion projects for the technical-technological outfitting of a fourth berth which in terms of construction is almost finished.

If one contemplates the progress in the 20 years since the existence of the Rostock trans-Atlantic harbor and also the future development of the sectors which determine capacity, there is evidence of a high rate of extensive expansion. However, on the other hand, in the course of continuous reconstruction and restructuring, attention was directed from the start at the most intensive utilization of existing capacities. Governed by the approach of better utilization of existing extensive basic assets with strictly limited work force resources at the same time, the question of the necessary increase in efficiency and capacity was and is solvable only via complex socialist rationalization on a large scale. These task were tackled with total consistency and involve far more than just improved outfitting and modernization in the sector of mobile handling equipment and lifting gear, but rather the further expansion of modern transshipping technologies and organizations overall. From the point of view of expanding capacity and in particular also of easing physically heavy work, the share of goods in the conventional form of transport was gradually reduced. The remaining volume, which was not handled as bulk general cargo (about 10-15 percent of the total bulk cargo transshipping), is represented in particular by regularly scheduled cargo which takes into consideration the receiving and dispatching conditions of foreign trade partners. It was possible to promote the formation of transport chains with unified goods by close cooperation with foreign enterprises; and this formation applies to a large number of various groups of kinds of goods.

Parallel to the process of technical and technological improvement, rationalization likewise applied to refining planning, management and organization of the complicated economic mechanism at the junction point. The relations between the most essential cooperating partners such as VEB Deutrans [Deutrans International Shipping and Charter] as forwarding agent, the harbor railroad, ship brokers, the tally GmbH [company with limited liability] and the Combine headquarters of Deufracht International Charter and Shipping VEB/German Maritime Shipping Co, Rostock, continued to undergo improvement in respect to the information and material-technical preparation, implementation, control and accounting of the transshipment process. By integrating the enterprise into the economic organization of the combine for merchant traffic and harbor management, it was possible to provide a more efficient solution to many problems having to do with the proportional systematic development of fleet and harbors, of the long-, medium-, and short-term technical-technological, organizational and commercial development.

It was also possible to improve production stability and utilization of capacities by intensified use of economic stimuli. Planning and accounting tasks were gradually solved more reliably and efficiently with the help of electronic data processing. In this way, the flow of ships and also generally the flow of transport means was substantially accelerated so that today average effective transshipping times of 8.5 hours per kt (general cargo 11.9 hours/kt, bulk cargo 4.2 hours/kt, liquid cargo 1.2 hours/kt) have been achieved—on an international scale these are respectable indices for a universal harbor.

The requirements for expansion of basic assets and their highest possible utilization were met primarily by the further development of the shift systems and the formation of a comprehensive maintenance system. For the necessary repairs in the sectors of mobile handling equipment and cranes, for tasks relating to supply and disposal, and specific construction repairs, to a large extent local capacities are available which are also simultaneously used for services for shipping. Other tasks are solved through close cooperation within the territory. The prerequisites for that are favorable in the Rostock region and in the industrial branch for merchant traffic and harbor management.

The development of the technical prerequisites, which also have to do with the organization of dispatching, includes, moreover, guaranteeing all other factors necessary for implementing production. The productive resource "man" with his multifaced, political, intellectual-cultural, and social relations, among others, including the training aspect, understandably plays the decisive role in this. The comprehensive solution of associated problems, the guaranteeing of a stable, highly qualified skilled worker and cadre pool of about 4,500 workers was able to be achieved in every respect. In this connection mention should be made of:

--the construction and expansion of the enterprise's own facility for initial and continued training which takes into consideration the varied and steadily growing training requirements of the workers (among other things, the enterprise trains apprentices in 16 occupational groups; 300 young skilled workers enter the production sector each year, these include primarily skilled workers for the transshipping processes and storage management);

--comprehensive social care, which includes, among other things, supply, commuter traffic, cultural and athletic opportunities, the enterprise's own vacation sites and comprehensive medical care, and

--measures in the wage policy area.

These are all activities which in their totality contribute to the creation of an enterprise climate which makes possible the full development of the creative power of the workers, promotes enterprise solidarity and creates and maintains a very productive enterprise collective which continually regenerates itself. This is an enterprise collective which in the still young history of the harbor provided the evidence that on the piers along the Warnow quality work is being done for shipping and trade. This is also evidenced by the many distinctions which the enterprise, collectives and individual colleagues were able to receive as deserved recognition for the competitive accomplishments relating to growth in capacity, rationalization and increasing efficiency.

Many successes in this development of harbor management were and are explainable only by the impulses which arose from the scientific-technical and production-oriented cooperation on a national and international scale. In this respect, special mention must be made of the relations with the Soviet partner harbors, which are based on the natural relationship of foreign trade and the connecting oceangoing flow of goods, and the relations with Szczecin harbor in the framework of the Interport association which first and foremost are in the interest of developing productivity for all parties, but which as of now have already gone well beyond this horizon in that the exchange of experience is being carried out just as intensively in many other sectors.

The rate of development of Rostock is a clear example of the systematic growth of the economic strength of our republic. And it will remain so in the future. In the interest of peaceful trade, in the service of shipping of all nations, Rostock harbor will continue to develop; through rationalization and technical improvement it will continue to expand its capacity and efficiency and thus will make a contribution to the political, economic and social progress of the GDR.

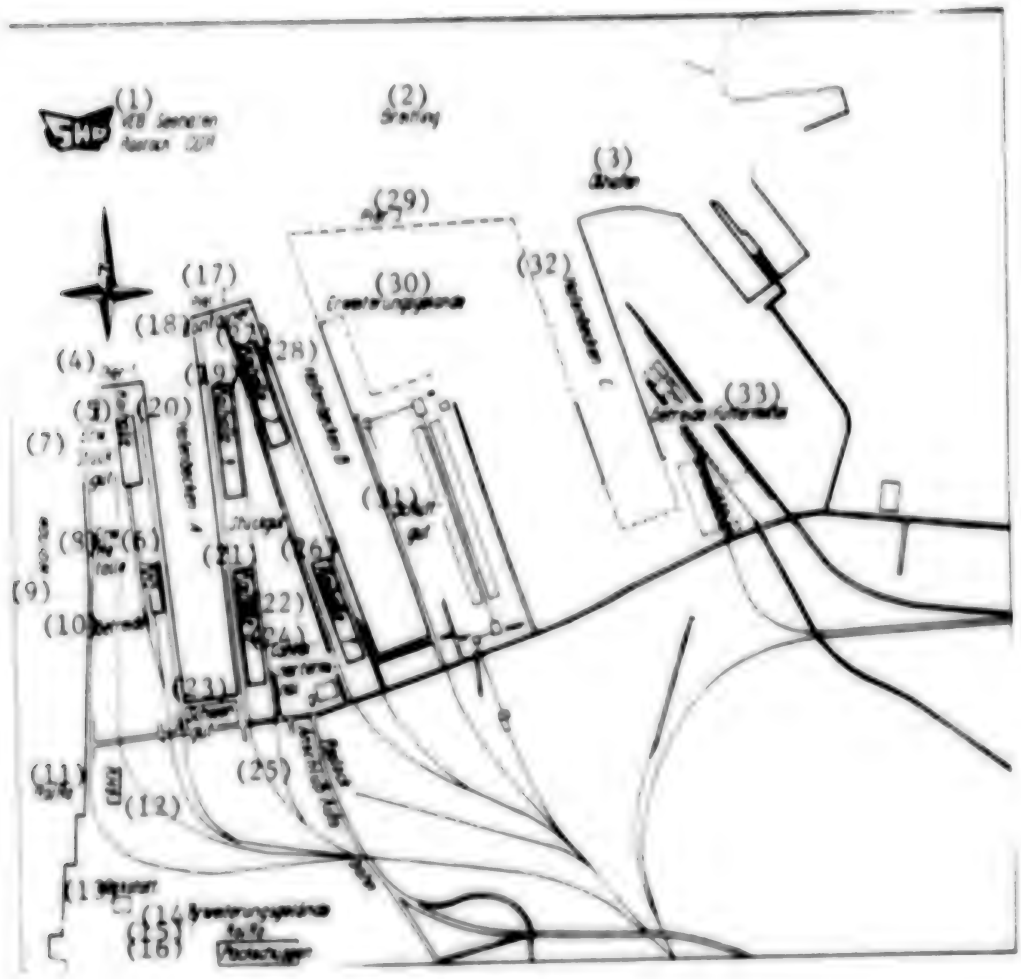
Table 2. Main Characteristics of VEB Rostock Harbor

32 berths with a dock length of 8.3 km and maximum draft of 35', including	
--Petroleum wharf:	3 berths
--Bulk cargo sector:	3 berths
--General cargo sector (including ro/ro):	25 berths
--Passenger dock:	1 berth
Equipment:	
20 cranes	3.2 tons
31 cranes	6.3 tons
9 cranes	10/20 tons
4 cranes	45/63 tons
7 general cargo bridges	12/16 tons
6 bulk cargo bridges	20 tons
1 bulk cargo-ship unloader	25 tons
2 container bridges	32 tons
6 mobile cranes	35/40 tons
1 floating crane	100 tons
200 electric and diesel forklifts and diverse roll-on/roll-off equipment (trailers, trucks)	

Table 3. Scheduled Service from Rostock Harbor

Routes	Shipping Company	Number of Monthly Departures
1. USSR (Riga)	DSR [German Maritime Shipping Company, Rostock] and Latvian Shipping Company	4
2. West Finland	DSR and Oy Finncarriers--AB--	2
3. Southern Finland	DSR and Oy Finncarriers--AB--(Trailer service)	4
4. Norway	Ivers and Co	2
5. Great Britain (London)	DSR	8
6. Great Britain (Hull)	DSR (Container service)	4
7. Great Britain (Tilbury)	DSR (Container service)	12
8. Great Britain (Hull)	DSR (Trailer service)	4
9. Cuba/Mexico	Cubalco--DSR, Czechoslovak Ocean Shipping, Polish Ocean Lines, Empressa Navigacion Mambisa	2
10. West Africa	Uniafrica--DSR, Polish Ocean Lines, Estonian Shipping Company (members of Continent/West Africa Conference)	2-1
11. East Africa (Red Sea)	Baltafrica--DSR, Polish Ocean Lines, members of Europe/East Africa Conference	2
12. Persian Gulf	DSR--Middle East Service	2

13.	India/Pakistan/ Bangladesh/Sri Lanka	DSR, Shipping Corporation of India, Scindia Company, India-Steamship Company, Pakistan Shipping Line, Nedlloyd, GDR Hansa, Wilhelmsen, (Members of India-Pakistan-Bangladesh-Conferences and the Ceylon Conferences)	6
14.	Vietnam	DSR	1
15.	China/Korea	DSR, Polish Shipbroker, Czechoslovak Ocean Shipping	1
16.	Far East	DSR, Swedish East Asia (Members of the Far Eastern Freight Conference	1
17.	Australia	Baltic Shipping Company	1
18.	Cuba	Empresa Navigacion Mambisa (Container service)	1



Site Plan of Rostock Harbor

Key:

1. VEB Rostock Harbor, GDR
2. Breitling
3. Petroleum wharf
4. Pier 1
5. Dock shed
6. Dock shed 5
7. Expansion for general cargo
8. Expansion for metals
9. Warnow River
10. Grain
11. Ro/ro
12. Dock shed 6
13. Workshop
14. Expansion areas
15. Ro/ro
16. Packing sheds
17. Pier 2
18. Containers
19. Dock shed 4
20. Dock A
21. General cargo
22. Dock shed 3
23. Heavy goods
24. Container terminal
25. Rostock connection to autobahn
26. Dock shed 1
27. Dock shed 2
28. Dock B
29. Pier 3
30. Expansion area
31. Bulk cargo
32. Dock C
33. Grain feed

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CROP, WEATHER REPORT PUBLISHED FOR MAY 1980

East Berlin FELDWIRTSCHAFT in German Vol 21 No 7, Jul 80 p 335

[Article by Meteorologist W. Schwinge, GDR Meteorological Service, Central Weather Bureau, Potsdam]

[Text] The Weather in May 1980

The month of May was generally too cold and brought many times the normal amount of sunshine. Significant rainfall was reported on only a few days.

Daily air temperature averages were below normal from 2-5 May, at the middle of the months, and from 21-25 May by 3-5K; during the latter period by as much as 8K. On the remaining days, temperature deviations were mostly on the order of magnitude of 1-3K; negative deviations were significantly more numerous. Warmer than usual weather occurred only from 18-20 May and at the end of the month. Daily maximum temperatures reached to begin with only 10°C, after 6 May usually around 15°C. On only a few days the maximum temperature reached about 20°C. This happened mainly between 18-20 May and at the end of the month. In some regions, 27 May was the first summer day of this year (maximum temperatures above 25°C.). Late frosts occurred with unusual frequency. Their occurrence was furthered by a persistent flow of cold and dry air masses which caused enhanced radiation conditions. Minimum temperatures below freezing near ground level were measured at certain points and partly in some regions 3-6, 10-17 and 22/23 May. The coldest days were 5 and 22 May (around minus 5°C) and 23 May (mostly minus 3 to minus 5, in unfavorable locations minus 7 to minus 11°C). Unobstructed sunshine durations were in general above normal (monthly totals 115-145 percent of normal). During 15-20 days the sun shone between 10 and 15 hours.

Significant precipitation occurred only on 7, 8, 19 and 28-30 May. During the latter period daily totals reached generally 10mm, locally up to 30mm. This happened principally in the Rostock, Schwerin, Neubrandenburg, Potsdam and Magdeburg districts. At the beginning of the month and during the first half of the second and third 10-day periods there were extended periods, without any precipitation whatever in the entire territory.

Weather Data for May 1980 Provided by the Central Weather Bureau, Potsdam

1. Monthly Air Temperatures and Deviations from Normal Averages

Schwerin	10.4°C	-2.2K	Erfurt	9.9°C	-2.5K
Neubr.	9.5°C	-2.1K	Leipzig	11.0°C	-1.9K
Potsdam	11.6°C	-1.8K	Goerlitz	9.9°C	-2.6K

2. District Precipitation Averages

Rostock	19mm	42 percent	Halle	35mm	60 percent
Schwerin	20mm	43 percent	Erfurt	37mm	63 percent
Neubrandenburg	29mm	62 percent	Gera	29mm	46 percent
Potsdam	24mm	53 percent	Suhl	37mm	58 percent
Frankfurt	14mm	30 percent	Dresden	22mm	33 percent
Cottbus	16mm	32 percent	Leipzig	19mm	35 percent
Magdeburg	39mm	83 percent	Karl-Marx Stadt	25mm	33 percent

3. Potential Evaporation

Northern bezirks	80...95mm
Central bezirks	90...100mm
Southern	80...100mm

Soil, Plant and Work Process

Topsoil daily average temperatures exceeded the 10°C limit until 6 May, except for mountainous regions. There was little temperature change thereafter until the middle of the month. A strong rise in temperature started on 16 May, continued until 20 May and started again at the end of the month. Around 27 May, daily average temperatures in the topsoil reached 17-20°C. A gradual rise in temperature occurred in the subsoil on 6 May as well. At a depth of 50 cm, temperatures at the end of the month were usually 12-15°C, at 100cm 10-13°C. Partially as a result of heavy evaporation, soil humidity in the entire GDR decreased considerably. In the top 50 cm layer, measurements below grass in the northern and central districts dropped mostly to 20-50 percent of usable field capacity, in the southern districts to 40-60 percent. In the regions having good precipitation, soil humidity at the end of the month increased by 20-30mm. The greatly dehydrated soil caused the occurrence of drainage losses in many locations, which generally diminished the benefits of rainfalls. Soil climatic conditions for friability and nutrient mobilization must generally be designated as unfavorable. In the beginning, they were determined by low temperatures, later by insufficient humidity. The increasingly dried out and preponderantly hardened soil required increased tractive power and tilling effort.

Plant growth was greatly diminished especially due to continually decreasing humidity, mostly subnormal air and soil temperatures and the frequent

occurrence of late frost. This had particular adverse impact upon feed grains, stem formation of summer wheat and the sprouting of winter wheat. Ripening of root crops was delayed and sporadic due to insufficient humidity for germination. In addition, their growth was hindered in heavy soils due to caking. In soils with small water absorption capacity, incipient drought could be observed. In the course of the month good conditions arose for initiating irrigation procedures. This year plantings are again in need of sufficient and regularly available humidity. The frequent frosts (especially on 23 May) caused widespread damage to developing potatoes and sugar beets, tomatoes and strawberries, in some location also to fruit tree blossoms. The predominant unfavorably cold weather delayed the normal course of phenological development which either maintained the delay already experienced or even increased it slightly. At the end of the month it amounted to 5-10 days. In some regions, especially in the mountains, it amounted to up to 15 days.

There was hardly any impairment in field labor activities cause by the weather. The potato harvest was mostly concluded during the second 10-day period of the month; the corn and intermediate winter grain harvest in the third 10-day period. Generally, drying conditions for the preparation of folder were favorable. The effectiveness of soil herbicides was diminished by lack of humidity; that of fertilizer herbicides and stem stabilizers by low night temperatures. On the other hand, mechanical weeding should have been significantly more effective. High irrigation needs required, from the middle of the month on at the latest, continuous shift operation of spraying equipment.

Agricultural and Meteorological Observations for July 1980

The delay presently encountered indicates that wheat will in no way ripen prior to the normal time. A slight delay is more likely. Because of the short growing height, the straw component will be relatively small. Good rigidity will ensure quick drying after precipitation. Therefore, prospects for a harvest with small losses are good. In the interest of making optimum use of soil humidity reserves, it is recommended that the harvest be made as quickly as possible and that new seeding proceed immediately. For intermediate summergrowth seeding, species having a short growing period and which are resistant to early frost are to be considered. Late week growth is likely with the root crops in view of the reduced effectiveness of soil herbicides.

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PRESENTATIONS AT ECONOMISTS' CONGRESS NOTED

Budapest FIGYELO in Hungarian No 24, 11 Jun 80 pp 1, 7, 9

[Article: "Congress of Economists, Economic Strategy and Planning"]

[Text] The 19th Congress of Economists will take place on 16-17 June in Szeged under the auspices of the Hungarian Society of Economics, the Organization and Management Science Association of MTESZ [Federation of Technical and Scientific Associations], the Economic Section of TIT [Society for the Propagation of Scientific Knowledge] and their organizations in Csongrad Megye. The congress will discuss in depth the current problems in the foundations of economic strategy.

Here we shall present excerpts from lectures presented in the five sections of the congress.

Dr Sandor Zsarnocai, university professor, will give a lecture on new features of our economic situation and the formation of social consciousness and public opinion.

As of now, the science of economics is not yet sufficiently advanced to distinguish between what is frequent and what is necessary; what is transitory and what is durable; what is valid only for a single country or a geographical region and what is universal, etc. in its analysis of concrete phenomena of economic policy or the definition of future tasks. This situation not only increases the probability of error in economic policy decisions; due to the direct effects of the science of economics on social policy, it can also lead to a situation where certain propositions may become unquestioned truths in the ideological or political sphere even though their validity turns out to be limited in the historical sense.

Among the many examples related to the evaluation of new phenomena, one is connected with the rapid rate of economic growth.

Transitional or Necessary?

Science is unable at present to unequivocally answer the question of whether the present slowdown of the economic growth of the European socialist countries is transitory or whether it is the necessary result of entering a new stage of development.

Under the present conditions, two real dangers exist: one is the refusal to face new aspects of reality and the continuation of principles and practices of an economic policy that were successful in the past. This danger is magnified by the fact that such an approach may lead to apparent short-term success. The other danger is the manipulation of public opinion by deemphasizing socially unfavorable factors and creating illusions.

The 12th Congress of the MSZMP demonstrated that the leading force in society is capable of recognizing and avoiding these dangers. One can assume, however, that these dangers may not be avoided on all levels of social activity.

Because of its function, economic policy leadership is geared toward the implementation of concrete, valid resolutions. Science, on the other hand, is oriented toward the future and approaches the present with a critical eye. As a result of this peculiar division of labor, temporary conflicts may arise between those who direct economic policy activity and researchers oriented toward the discovery of new phenomena.

Scientific debates play an important role in the discovery of new phenomena. We must be prepared to see not only divergent but also conflicting views clashing in public.

For Rational Labor Management

The lecture of Bala Rabi, state secretary of metallurgy and machine industry, will deal with the measures necessary for rational labor management.

During the last 1 to 2 years, we saw the beginning of a decline in the work force employed in industry, in particular, metallurgy and machine industry. This trend will continue in the coming years. Along with the general decline in the work force, we must expect a substantial degree of differentiation with respect to geographical area and specialization because new jobs must be created in some areas and some rapidly developing fields.

There is a mistaken idea of labor management which holds that this concept means only the securing of the necessary quantity and quality of labor. Labor management also encompasses the other factors related to one's work (e.g., work satisfaction).

On the national economic level, the basis of employment policy will continue to be full employment; on the enterprise level, however, only the level of work force necessary to do the job is justified. The right to work should not be interpreted to mean a right to any particular job. The system of employment-policy goals must ensure both the stability and the necessary organizational and trade mobility of labor.

From a systems standpoint, labor management on the enterprise level is not just the task of a single functional entity, the "department of labor affairs"; instead, it requires the coordination of the activities of many enterprise sectors. The economic tasks we face place a premium on human factors such as increased quality requirements, willingness and capability to adapt to changes, increased need for management information, etc. Enterprises must react to this objective process, e.g., by developing democracy in the workplace, providing better information for the enterprise collective and formulating suitable forms of individual and collective incentives. To this end, enterprises must use the results of political science, sociology, psychology and ergonomy.

Improved efficiency of labor management requires better planning, improved organizational structure, preparation of job descriptions, well-defined performance standards, regular employee evaluations and balance between labor-management and wage policy.

Dr Gyorgy Paranyi, deputy director of the Industrial Economics Research Group of the MTA [Hungarian Academy of Sciences], will give a lecture entitled "Improved Production Efficiency and Technological Development in Enterprise Strategy." In particular, he points out that technological development within enterprises takes place in a context, under definite limitations. These include the scarcity of investment resources and labor, difficulties in the area of base material supplies, weaknesses of international cooperation and existing attitudes toward work. At the same time, there are some opportunities open to enterprises for increasing production efficiency. Among these are investment projects aimed at modernization and production development, transfer of technology, specialization within the enterprise, participation in domestic or international cooperation and the improvement of manufacturing and labor organization.

The methods, means and resources of production development must be built into enterprise strategy in an integral manner. The art of formulating a technical development strategy consists in the long-range interleaving of these elements, some of which can be freely selected, varied or combined while some are subject to limitations.

Incentive and Compulsion

Sandor Annus, deputy director general of the Paper Industry Enterprise Research Institute, points in his lecture to the need for a suitable set of conditions to encourage ventures, by making society and individuals interested in the success of the venture.

Enterprises recognize that complex improvement of efficiency will be the main tool for realizing our economic goals in the future.

There has been a welcome increase in domestic methodological recommendations and suggestions to facilitate increasing efficiency in a complex sense by discussing the methods to be used. With the startup of new capacities there will be an increasing requirement in the future for maintenance and reconstruction of production facilities.

In the opinion of the lecturer, enterprise resources will be insufficient to achieve the manpower redistribution necessitated by economic efficiency in a substantial number of cases.

A Laszlo Annus calls attention to a number of basic principles relating to technological development. For example, nothing should be "reinvented"; we should obtain, as soon as possible, things that already exist elsewhere; that one must obtain not only production processes but also production systems; that problems on the agenda must be formulated rapidly and execution organized promptly.

Peter Medgyessy, department head at the Ministry of Finance, will present a lecture entitled "New Features of Financial Regulation and Enterprises." The lecturer underscores our intention to devote more attention than in the past to coordinated modernization of each of the three elements of economic direction. In other words, along with the modernization of the price and financial system, there is also a need to raise the level of planning and review the organizational and institutional framework of economic management.

Along with material incentives and a general emphasis on incentive factors, it has become necessary to place added stress on coercive aspects implicit in economic direction. New investments can be started only by enterprises which are able to produce competitive products with a rapid rate of return, expand export capacity, or achieve economic import substitutions. We intend to place more emphasis on smaller development projects aimed at reconstruction (by small enterprises or small, successful developments by large enterprises).

Enterprises must react to stricter economic requirements not by reducing export volume but by improving profitability and discovering internal reserves in work organization and cost management. However, the elimination of the least favorable exports is unavoidable.

Transformation of the economic structure and improvement of overall economic efficiency are impossible if every enterprise has to face reduced prospects for development. Behind reduced quantitative production growth there must be substantial qualitative changes. Competitive enterprises capable of rapid development will, therefore, be given assistance within the framework of general regulation.

The most efficient enterprises will derive the greatest benefits from an essentially uniform rate of producer differential turnover tax rebate which is independent of the profitability of the operations of the enterprise.

Enterprises capable of rapid development are also helped by special resources: based on a separate rule within the system of income regulations, mandatory reserve funds may be used to replenish revolving assets provided that sales are growing dynamically and receipts increase rapidly; the tax-exempt portion of share funds depends on the income generated by the enterprise; in the area of wage preferences, those connected with performance requirments play a decisive role (where growth of economic exports is an especially important requirement); the role of return on investment in allocation of credit will be more important; in the area of credits, the proportion of loans aimed at expanding convertible export-product base will increase. The MNB [Hungarian National Bank] will waive the requirement for a 30-percent contribution of internal resources in the case of enterprises already in debt which are planning good, effective development projects with a rapid rate of return; taxable-base allotment is available to enterprises as an additional resource in the case of good development projects which are not creditworthy on the basis of general conditions because of excessive risk for the bank. The Inter-Branch Development Association is working for rational use of development resources obtained from foreign trade and the development of marketing activities. A venture fund at the Hungarian Foreign Trade Bank is available to enterprises for assisting in the growth of nontraditional forms of international economic cooperation.

It appears that enterprises and, in some cases, government organs are not sufficiently well-informed about existing financial opportunities.

The Role of Small and Medium-Size Enterprises

There is a need to develop the organizational system of enterprises. In this connection, it would be appropriate to reexamine large enterprise organizations that have outgrown themselves and to consider dismantling them when necessary. Gaps must be filled in the area of small and medium-size enterprises, especially in services, but also in the case of export-oriented operations requiring a great deal of flexibility. The rules and financial conditions necessary to found such enterprises are being formulated. The advisability of integrating research, production and marketing must be investigated when appropriate.

better organization of foreign trade operations, formation of associations, elimination of rigid rules regarding enterprise profile and the creation of choice by establishment of new trade organizations are especially important.

Peter Medgyessy also discusses the operational experience of the new price and financial system. One can state that the drive for volume is gradually being eclipsed and the drive for quality is taking over as a leading force. Differences among the growth rates of enterprises are increasing. Some enterprises reduced production by 15 to 20 percent while others grew 20 to 25 percent. Reduced sales had less of a negative effect on results than in 1979: this is a sign of movement toward a more economic structure. Imports declined as a result of reduced production growth while there is a great deal of enthusiasm for exports. According to indications from the MNB, the number of enterprises unable to fulfill their long-term repayment obligations has been reduced to a few large enterprises; their total debt has also declined. Enterprises are more careful in assuming obligations; they improved their liquidity position and reduced enterprise stocks. Changes in cost structure were in accordance with expectations: material and material-related costs increased forcing material and energy conservation. On the whole, enterprise profits may be near the levels calculated in the state budget, provided there are no extraordinary changes. At the same time, one must expect much greater variations in enterprise profits than in previous years. For the year as a whole, we may see a larger than usual number of enterprises which have development fund deficits or possibly even operating losses.

Not a New Phase

The Sixth Five-Year Plan and enterprise planning are the topic of a lecture presented by Akos Balassa, main department head at the National Planning Office. The Sixth Five-Year Plan will not open a new phase in the development of the Hungarian national economy. Most of the factors influencing 1981-1985 economic policy have been present since the 1970's.

There have been variations in the intensity with which economic policy and the economic leadership adapted to changing internal and external conditions. The reform of the system of direction proclaimed fundamental principles in keeping with a new stage of economic development and created a framework suitable for management methods that are in step with those principles. Yet, the process of fleshing out this framework slowed down during the 1970's; progress was occasionally followed by stagnation or even a step backwards.

The Fifth Five Year Plan defined correct goals in principle but a number of important targets proved unfeasible.

The factors determining the nature and main characteristics of economic development during the past 5 to 8 years required substantially greater changes in economic activity than the ones we actually made.

During the Sixth Five-Year Plan period we must expect, on the one hand, further deterioration of foreign trade conditions, while objective domestic factors will strengthen the demand for intensive economic development. What is involved here is not the start of a new stage in economic policy but an increasingly unequivocal and urgent need to adapt, both in the macrosphere and microsphere, to the requirements of a stage begun earlier and to make up for past delays.

Conditions and opportunities for quantitative growth will diminish even when compared to the most recent period. An increasing portion of production, rising at a relatively modest rate, and a substantial part of incremental production, must be used exclusively to increase economic exports. Aggregate domestic final consumer demand will grow very slowly. In contrast to the preceding period, however, this and producer demand will have to be satisfied without increasing the proportion of imports: the proportion of domestic production must not decline.

Therefore, development of the production structure will become an even more urgent task and an indispensable condition for expanding production in line with foreign marketing opportunities and efficiency criteria.

Dynamic development is possible, even necessary, in the case of enterprises capable of more dynamic development and able to find realistic opportunities and means of efficient structural transformation. This will presumably be accompanied by more extensive relocation of labor than in the past. The volume of investments in the productive sphere will be similar to the preceding 5-year period.

Speaking of enterprise planning, Akos Balassa points out that the chief function of planning is the formulation of an enterprise strategy to provide the basis for the efficient operation and development of the enterprise under rapidly and precisely changing conditions where both the direction and the extent of changes are unpredictable. Security cannot be assumed on the basis of a "stable" enterprise organization, structure, profile, conditions, etc.; only by making conscious preparations for constantly changing and increasingly difficult "external" conditions can the enterprise formulate the ways and means necessary for rapid and flexible adaptation to such changes.

Akos Balassa mentions that the medium-term plan cannot define every detail of economic activity by the enterprise. Planning means making decisions. Decisions can be made only when the required information is available. Decisions must also be made whenever they are necessary for the progress of the enterprise, within the framework of justified risktaking. The goal must be the formulation of this type of medium-term enterprise plan, disregarding bureaucratic formalism and forced pseudodecisions.

Commerce as the Organizer of Production

Karoly Demeter, deputy director general of the United Incandescent Lamp Factory, gives a discussion of the experience of his enterprise. He points out that the marketing function forms an organic part of the operations of the enterprise: it encompasses research, production and sales. Marketing and, in particular, market analysis, form the basis of industrial research and development, investment and trade policy.

The methodology of marketing activity depends on the market sphere in question. According to the lecturer, the least reliable forecasts are those dealing with the domestic market. Demand for up-to-date products is low. Significant changes in demand occur frequently. For this reason, the domestic market is not suitable, by itself, to ensure economic product development. The socialist market is predictable; medium-term demand is stable. In capitalist markets, every marketing opportunity must be made use of. Unexpected fluctuations and changes have occurred and may occur in the future in spite of the most careful surveys.

The lecture of Tivadar Szabo, director of the Trade Enterprise for the Means of Production in the Construction Industry, deals with the coordination of the marketing strategies of industrial and trade enterprises. Use of commercial methods requires improvements in the ability and readiness of producers and trade enterprises to ship products. Use of marketing makes sense only if it extends to production and sales organizations, provides an incentive for better manufacturing organization and a greater effort to satisfy demand and makes it possible to improve sales organization, customer service, market research and organization of product delivery, to introduce new products and up-to-date technologies and only when long-range cooperation between industrial and trade enterprises becomes possible.

On the subject of association contracts between foreign trade enterprises and domestic economic organizations, the lecturer points out that existing legal provisions require unanimous decisions by the members of these associations. This makes decisionmaking quite cumbersome since objections by a single member can prevent the implementation of worthwhile proposals.

Foreign trade enterprises participating in commission contract arrangements object to the fact that their opportunities for foreign trade activity, business policies or a pricing policy are limited. Customers who take part in the development find the risk assumed by the foreign trade enterprise too low; they object to the fact that the interests of the client do not carry sufficient weight.

"When we ask whether industrial or trade enterprises know the market or whether they have an interest in learning about the market, the picture we get is, almost without exception, negative," writes Sandor Demjan, director of the Skala Department Store.

In the area of product groups with wide and indepth selection, there are shortages even in those cases where personnel and material conditions of production are all at hand. Most industrial enterprises insist on specific orders 6 months to 1 year ahead of the date of shipment. Enterprises frequently enjoy a monopoly position within their profile; they face no threat of foreign competition; their economic interests do not force them to keep in touch with the marketplace and to satisfy demand in a flexible manner. Wholesale trade does not pressure industry to do so because in general they are not familiar with true demand at the time contracts are signed. They do not possess reliable information systems suitable for directing the flow of products, gathering and analyzing the market (this is also true for enterprises which use computer technology). As a result, they use the orders of the preceding year or several years as the basis for this year's orders, aside from correction of a few exceptional problems.

Operational difficulties in industry and wholesale trade lead to compromises that have a negative impact on consumers and retail trade which has a direct relationship with consumers.

Practical experience shows that the organizational independence of wholesale trade acts as a wall separating industry and foreign trade from retail trade that is in direct contact with consumers.

Economic development and the present level of consumption have pointed, at least for a decade, to the need to consolidate wholesale and retail functions within a single organization. This would mean that trade enterprises with direct contact with consumers would be able to construct a suitable information system and interface to industry and foreign trade.

The lecturer calls attention the new interpretation of the role of commerece as the organizer of production. Previous forms of production organization (exchanges of shortage goods) helped in alleviating such shortcomings but failed to provide a solution. The role of commerce in the organization of production may include the establishment of small enterprises or cooperatives.

Dr Bela Csendes, in his lecture entitled "The Sixth Five-Year Plan Concept and Enterprise Planning in the Food Sector," states that the development concept of agriculture and the food industry for the next 5 years is based on an economic-policy direction toward increased competitiveness in food production motivated by a high degree of export interest. Modernization of agricultural production based on costly, energy-intensive investments must be halted; improved efficiency and better quality must have priority over quantitative growth of production.

Production Structure of Agriculture

The production of fully or partially processed goods must be coordinated to achieve an optimal mix in terms of production and export efficiency. The goal must be to maximize net production and net currency receipts for a given level of resource utilization.

Small scale agricultural production by various population strata engaged in auxiliary activities must be encouraged, as before.

The decrease in the agricultural work force has slowed or stopped in recent years. This trend will continue during the coming years. An increasing percentage of the agricultural work force must be employed in auxiliary industrial activities. Further reduction of the work force employed in primary activities is indicated primarily in regions with unfavorable conditions with a view toward improved efficiency and competitiveness of agricultural production.

Production and processing of oil-producing plants must be increased at a rapid rate in order to increase economic exports and provide domestic sources of protein feeds needed in animal husbandry.

Cost-effective meat production based on mass fodder must be increased in beef cattle farming without delay. This sector can become competitive only through the use of cheaper, more economic methods of raising cattle.

The increase in pork production during the Fifth Five-Year Plan is based primarily on surpluses from small-scale production and more intensive utilization of large-scale capacities, including outdated capacities that are already fully amortized. Moderate increase of production during the Sixth Five-Year Plan must also be based chiefly on these expansion opportunities.

In poultry production, further expansion on a moderate scale is possible in line with increasing domestic consumer demand, agreements to be concluded with socialist countries and economic use of capitalist market opportunities.

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RATE OF EXCHANGE POLICY PROBLEMS EXAMINED

Budapest FIGYELO in Hungarian No 27, 2 Jul 80 p 3

[Article by Dr Imre Tarafas: "Our Exchange Rate Policy and the Reasons Behind It"]

[Text] Our exchange rate policy has become more resolute and more flexible since the introduction of the new system of prices and regulators on 1 January 1980. The change is indeed merely one of increased flexibility and resolve: the direction and character of our exchange rate policy has been the same for years, will remain the same in 1980 and, as far as we can say today, through the Sixth Five-Year Plan period. The direction of this exchange rate policy is toward revaluation (i.e., the commercial exchange rate of the forint relative to convertible currencies is raised from time to time); it follows changing exchange rates of particular convertible currencies in the money markets. Changes in the commercial exchange rate of the forint (the "mean exchange rate" relative to convertible currencies) have become more frequent since 1 January of this year. Relative exchange rates are modified regularly on the first day of every month.

Revaluation To Fight Inflation

The direction of our exchange rate is determined by the strongly inflationary world economy surrounding us. As a result of the inflationary economic policy carried out by a large number of countries over many decades, the middle 1970's brought rapid increases in world trade price levels. Occasional sharp world market price changes also occur against the background of this inflationary process. Under these conditions, relative price changes merely mean that the prices of practically all products go up, some more sharply and more often, others less markedly and less often.

It is obviously in our best interest to have our domestic prices follow changes in relative world market prices. In an economy such as ours, with its openness and dependence on foreign trade, this is the only way to provide sensible market orientation to enterprises and

to build an economic structure which is hopefully better suited to our conditions and is more efficient. Lacking a flexible exchange rate policy oriented toward revaluation, importation of relative world market prices and price changes would mean, in almost every case, the importation of rising, often rapidly rising, prices; i.e., the importation of runaway world market inflation.

For the enterprises, inflation means rising sales receipts, but also rising costs. The income of one enterprise is an expense of another. Inflation does not create or give rise to new or additional national income. It merely distributes the same volume of national income at rising prices.

Experience shows that runaway inflation is unable even to accomplish a temporary income redistribution among enterprises. In the case of individual enterprises or products, prices or costs may increase more rapidly. This is not due, however, to inflation or rising price levels, but to changing relative prices. Inflation merely provides the framework of this process, not its content.

Long-term inflationary income redistribution, with the cost borne by the general population, is also out of the question: real wages and trends in the real income of the population are defined by the policy on living standards. If consumer prices are rising rapidly then the policy on living standards must insure that nominal wages and monetary income of the population (and therefore enterprise wage bills) also increase at a rapid rate. All experience shows that runaway inflation will make the conditions for rational economic activity harder, not easier.

The Labyrinth of Import Subsidies

Runaway inflation is also incompatible with our social and economic goals. This is why our economic policy always aimed toward slowing the inflation imported from world markets. Import price support is a one-time remedy: its use will lead to an ever-increasing gap between domestic price relationships and relative world market prices resulting in growing confusion. In addition, although import price support slows the increase in enterprise costs, it also increases the burden on enterprises. This is because import supports are paid out of the state budget. In the final analysis, the eventual source can only be the budgetary receipts taken from the enterprises themselves. Money can be taken only from where it can be found. Therefore, along with the rise in import supports, there was a quite noticeable tendency toward increasing levies on enterprises, including the number and volume of individual levies. This has finally led to such a confused jungle of levies and supports that a general, overall reform of the price system became necessary after a few years. Without it, the operation of a system of economic direction based on enterprise autonomy would have been impossible.

In principle we could also stop all import price supports. Instead, we could let producer prices rise rapidly and protect the relative stability of consumer prices by reducing turnover taxes and increasing consumer price support payments. Such budget expenses, however, would have to be paid out of increased levies on enterprises. Thus, the income situation of the enterprise sphere would be no better under this scenario. In addition, producer price levels would quickly rise above consumer prices, thoroughly distorting the relative evaluation of resources within the economy. If domestic price relationships differed fundamentally from internationally accepted ones (i.e., consumer prices exceeding producer prices) this would make one of our important currency policy goals more remote: that of creating a unified (commercial and noncommercial) exchange rate.

Does Not Reduce Export Incentives

These considerations govern our exchange rate policy when we revalue the forint while world market inflation is substantially faster than our domestic price increases. The extent of the revaluation is determined mainly by the difference between average price increases in the domestic and international markets. Of course, increases in the price of particular products vary around the average rate: some prices increase faster than others. In other words, price relationships change. Therefore, regardless of the size of the revaluation, some exporters will increase their receipts in forints while others will lose some of their forint income because their convertible currency prices rose at a less than average rate. The latter may be especially willing to blame the exchange rate policy for this, even though the real reason is the change in relative world market price of their products. The role of exchange rate policy is merely to transmit changing price relationships to the domestic economy at price levels that are constant or rising slowly. In other words, it leaves little or no extra inflationary profits, achieved without improved efficiency, in the hands of enterprises, while at the same time it protects them from an inflationary "ballooning" of costs.

It follows that changing exchange rates bridging the gap between domestic and international price rises do not reduce export incentives and are not contrary to the goal of restoring our foreign trade balance. The international market situation, with a world economy floundering from minibooms to serious crises, is not conducive to exports. But we cannot compensate for this by conducting a passive, do-nothing exchange rate policy which lets runaway world market inflation engulf our economy, thereby adding another serious problem, that of a runaway inflation, to our existing economic woes.

Export incentives can be strengthened only by appealing to one of the fundamental principles of our economic policy: that of limiting or slowly expanding domestic consumption and the growth of the domestic market, thereby forcing our enterprises to increase their export efforts.

At the same time a consistent exchange rate policy which protects us from external, inflationary influences will require improved export efficiency while also making such efficiency possible. Forced improvement or elimination of uneconomic activities will create the financial conditions required for rapid development of economic activities.

Without A "Magic Formula"

Precisely because of the wide-ranging economic consequences they entail, changes in exchange rates cannot be reduced to a computational problem. They require concrete economic policy analysis in each and every case. One of the most important aspects to be considered is a situation where world market price increases vary greatly among the various sectors and product groups. In such cases the changes in exchange rates cannot mechanically follow the level of average price increases because this would lead to losses in a great many enterprises, while others could hold on to substantial profits. Exchange rates must be set in conjunction with other means of economic policy. This is especially true in the case of extreme world market processes. Thus, it is not possible to arrive at some kind of "magic formula" to calculate the expected size and timing of changes in the exchange rate. The most one can say for sure is that revaluation of the forint becomes increasingly likely whenever our foreign trade prices expressed in convertible currency increase at a pace substantially exceeding domestic prices. One can also expect that we will strive for flexible exchange rate modification and gradual changes in exchange rate levels because it is more difficult to adapt to infrequent, large and sudden exchange rate changes.

Naturally, the exchange rate policy aimed toward revaluation applies both to convertible currencies and to the transferable ruble, inasmuch as the well-known CEMA pricing principle, when applied in a flexible manner, requires that prices denominated in transferable rubles reflect the effects of world market price increases.

Our exchange rate policy and its economic effects are further complicated by the fact that we use not one, but several convertible currencies, in our foreign trade.

The value of these currencies relative to each other, i.e., their money market exchange rate, has been subject to continuous and often quite substantial fluctuations since the introduction of a "floating" exchange rate system in 1973. In the long run, changing relative exchange rates are governed by deep economic factors, including differences among the inflation rates of different countries. Yet, in the short run (a few weeks or months, or even a year) an important role is played by a number of short term speculative or psychological factors that are quite unpredictable. As a result, long-range trends in exchange rates are subject to substantial fluctuations: this makes analysis of expected changes extremely tentative. These frequent and substantial

fluctuations in relative exchange rates of convertible currencies make the situation of export- or import-oriented enterprises very difficult all over the world. Their calculations are less certain and their risks are greater.

Following Relative Changes

Thus, the forint-denominated exchange rates of convertible currencies must follow changes in money market exchange rate relationships. Fixing forint-denominated exchange rate relationships could lead to a situation where lags accumulated over an extensive period would have to be made up in a single jump while our exporting and importing enterprises would be given incorrect signals. Unchanged relative forint-denominated exchange rates would encourage exporters to trade in devaluating currencies while importers would deal in revaluating currencies, without being forced to bargain on the basis of changing currency values.

To avoid such negative effects we are modifying relative forint-denominated exchange rates on a regular basis on the first day of every month. These modifications are based on changes during the second half of the preceding month in the money market exchange rate of the currencies which play the most important role in our foreign trade. The forint exchange rate of rising currencies is raised, and that of devaluing currencies is lowered so as to insure that the average exchange rate of the forint remains unchanged in terms of average devaluations and revaluations. (As we saw before, the level of exchange rate is not modified in such a mechanical manner.) This is the so-called currency basket approach used by a number of countries besides ourselves.

Adjustment of relative exchange rates may appear to individual enterprises as a revaluation or devaluation of the forint in cases when all of their import or export business takes place in one or several convertible currencies whose value is going up or down.

An active, flexible exchange rate policy demands more careful and sophisticated enterprise management, business and financial policy. By demanding and also leading to such policies, exchange rate policy can contribute to improved international competitiveness of enterprises and the national economy as a whole.

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OPPORTUNITIES FOR HIGH SCHOOL GRADUATES DEFINED

Budapest NEPSZAVA in Hungarian 27 Jul 80 p 1

[Text] This year 20,000 youngsters completed their secondary school studies. What work opportunities are there for those who cannot or do not wish to go on to institutions of higher education? This is what we asked at the Main department of Labor and Wage Management of the Ministery of Labor Affairs. "The picture will not be entirely clear until September," said Mrs Endre Mezei, section chief. "At present some of the young people are appealing their non-acceptance at institutions of higher education or are counting on make-up tests to get them in. Others are vacationing and won't begin considering jobs till later.

"At all events it is a fact that theoretically 15,000 of the 20,000 graduates can enter various higher-level vocational training centers or take courses in typing and shorthand. However, experience to date indicates that, with the exception of the universities and colleges as well as the popular vocation, the expectations of the high school graduates do not mesh well with the actual limits for training. Thus it is conceivable that 8,000-10,000 instead of 5,000 youngsters will go to work.

"Limited economic growth is expected in the coming years: the regulators which became effective as of the first of January stimulate the enterprises to extensive use of wage fund management as well as to stricter manpower management. In addition the resolution requires the various budgetary, computer technology and research institutes to reduce their manpower by 15-20 percent during the Sixth Five Year Plan. While this is beneficial to the economy, it limits the choice available to the present crop of graduates.

"There continue to be many vacancies in mining, metallurgy, the textile and the construction industries. Vocational trainers are looking primarily for miners, welders, machinists, locksmiths, spinners and weavers, boot-makers, carpenters, bricklayers, concrete mixers, etc.

"Job openings vary greatly depending on county or part of the country. Budapest c ntinues to exercise great attraction for high school graduates. Vocational guidance organs of Budapest and the counties have made a collection of the educational and work opportunities available to high school

graduates broken down by enterprise, profession and course. This information has been published in various forms such as 'After High School, What?' which is published for Budapest. Institutes, the labor affairs departments of the councils and the vocational training institutes offer verbal counseling."

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WORKERS COMMENT ON PLANS FOR WAGE DIFFERENTIATION

Budapest NEPSZABADSAG in Hungarian 19 Jun 80 p 19

[Report: "More Incentive Waging, Higher Efficiency--According to the Work Done"]

[Text] There is a lot of talk today about differentiation based on work and about more incentive waging. The correct principle, which also corresponds with people's sense of justice, is not yet being applied consistently, however, at all times and in all places. Because of egalitarianism that is foreign to socialist waging and because of subjective and often unjustified decisions, higher moral and financial recognition frequently goes to those who do not merit it by their efficiency. It is encouraging, however, that more and more employers are trying to create the basic conditions for a differentiation according to actual work. This is indicated also by the following letters from our readers.

More Output Even by Fewer People

"The Gyor auto works, employing only 400 workers, is one of the smallest installations of the Hungarian Railroad Car and Machine Plant," writes Laszlo Becs, turner and local party secretary. "Our main task is to make the experimental prototypes of, and later to mass produce, the various undercarriages--within the highway vehicle program. A tight staff management and our increasing tasks require better work management, including a constant increase in team and individual production. And this requirement can be fulfilled only by consistent application of financial interest and higher-incentive waging. It was unavoidably necessary, therefore, to differentiate and apportion the wages and bonuses more than previously and on the basis of the work accomplished.

"At the beginning, not everyone agreed with the more apparent differences in wages and bonuses. It was generally opposed by the less efficient workers. However, the political work of our party organization, the exemplary individual behavior of the communists, and the measures which were coordinated with the economic management and which were in line with the majority's sense of justice, yielded good results.

"The workers met the higher requirements, and the respect for better work increased. We were able to carry out, in a good working and political atmosphere, even tasks that require more effort. Our plant fulfilled a 429-million plan 5 years ago with 50 additional workers; last year, production reached 1,323 billion forints even with a reduced staff. Our experiences corroborated the high significance of the correct application of differentiation.

"Our plant has at present four kinds of differentiated forms of wages and bonuses. The differentiation between pieces of work is manifest in the various categories. Work that requires a higher level of professional training yields higher wages; the hourly wage difference between categories 4 and 6 is 3 forints. Our skilled workers--when they fulfill the conditions--receive a 10 percent bonus over their base pay. This also is an incentive for higher quality and quantity and for professional training. Individual hourly wages are differentiated on the basis of the number of years on the job; the differences here are 3-5 forints.

"According to our experience, however, the best incentives are the differentiated bonuses. The first time that we used it was in the first half of the past year. The management pledged to pay two weeks' wages for every worker who fulfilled the 6-month plan. On the basis of the decisions made by the factory foursome, with the inclusion of the economic managers and union officials, we ended up by a wage differentiation of up to 4 weeks based on the quality and quantity of output. There already was a measurable change in the bonuses at the year's end: even those who did not deserve a bonus in mid-year have put in more effort and worked harder."

With an Equal Chance

"It is not output that primarily determines the differentiation according to performance that is becoming widespread," writes Istvan Nagy, a reader from Mindszent. "This increases the problems, however, which were already present as objective factors in quantitative waging. As exemplified by my former place of work, in a textile industrial plant--or anywhere else--the most modern machine may be standing next to an outdated one that is ready to be scrapped. Obviously the output of the two machines of two different categories can be neither quantitatively nor qualitatively equal. On the other hand, the modern equipment that has been acquired during the reconstruction of the textile industry cannot by itself guarantee good quality either. There are cases, however, when the machines are purchased, but the workers cannot acquire the higher-level production training and the manufacturing technology right away. Consequently, there may be significant differences between the various plants, even under identical normative conditions. This creates an awkward situation, then, and makes it difficult to realistically evaluate performance and to differentiate accordingly. It is understandable if under such conditions people oppose differentiation. This will frequently create a bad job atmosphere.

"What should be done, then? When we decide to differentiate, we must also make sure that everyone has the same opportunity for higher recognition."

Frankly, Through Discussion

Janos Totok, engineer at the Office of Traffic Management of the Hungarian State Railways and member of a socialist brigade, writes: "The moral and financial recognition of merit is a recurring topic in our place, too. According to the opinion of our brigade, this is precisely one of its faults, because to fully realize the differentiation according to performance, this differentiation must be constantly discussed. Moral recognition and the appropriate distribution of material assets cannot be an objective of campaigning--as is often the case even today. It is a prerequisite of appropriate and just decisions that the responsible political and economic leaders be thoroughly and realistically informed and be familiar at all times with the performance of both the individual and the collective. This is not always the case. Evaluation and constant and exact information are made difficult also by the frequent changes in personnel.

"A few days ago our party organization dealt precisely with the establishment and the practical experience of a uniform system of evaluation-- it did this in connection with the work of the small factory foursome. The variety of concepts that were heard also reflects indecision and the inadequately founded decisions that are being made from case to case. No wonder the workers react to all of this unfavorably.

"It is the unanimous opinion of the members of our brigade--the socialist brigade '7 November'--that differentiation according to performance is just and can be carried out. The socialist brigades can do much for it, even if only by serving as examples. We have already achieved that financial recognition and one-time bonuses are jointly divided--true, often following debates--more and more according to actual performance and merit. Even wage increases and decorations are awarded on the basis of joint decisions. In practice, our experience is not ideal yet either. The members of our brigade, just like the majority of people, are prone to forget the mistakes quickly and to evaluate subjectively. But the real values will surface most of the time during the frank and open discussions."

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MEASURES FOR ALLEVIATING BEER SHORTAGE DISCUSSED

Budapest NEPSZABADSAG in Hungarian 15 Jun 80 p 6

[Report by Ferenc Cserkuti: "Summer Is Here But Where Is the Beer?"]

[Text] It is an unmistakable sign of summer when stores run out of beer. We have changed from a wine-drinking to a beer-drinking people. This is shown by the fact that the per capita wine consumption has been holding steady around 34 liters for the fifth year in a row, while the per capita beer consumption has risen from 72 liters in 1975 to 86.5 liters in 1979. This includes people who do not drink beer at all, including babies.

Realizing how far we have come to the present level, we clearly see how enormous the increase of beer consumption is. Before the war, in 1938, the average percapita beer consumption was only 3.8 liters, and beer production was accordingly low. A total of 338,000 hectoliters of beer were produced in 1938. Production today reaches 7.8 million hectoliters.

Recurring Complaint

Even this is inadequate. Huge amounts of beer must be imported from abroad to meet the demand. Last year the Hungarian beer industry produced 7.4 million hectoliters of beer, and this was supplemented by 1.9 million hectoliters brought in from abroad.

We have reached the point where we have become Europe's largest importer of beer but the complaint that there is not enough beer continues to recur constantly during the summer months. There already are difficulties with the supply even though the warm weather arrived only a few days ago. Although the factories are producing at peak capacity and imports are arriving regularly, we are still short of beer. The consumer cannot be blamed for wanting more beer during such times either, not even when we know that beer is an alcoholic beverage. Alcoholism cannot be fought by creating shortages; those who want alcohol will drink wine or even brandy if they cannot buy beer. This is one reason why many countries put great effort into persuading people to drink beer, which has a lower alcohol content, instead of drinks with high alcohol content.

According to Istvan Debreczeni, director general of the Beer Industrial Enterprise Trust, even the regular beer drinkers drink more in the great summer heat, and they are joined by the seasonal drinkers who sip the foaming drink only to refresh themselves.

The production capacity of the breweries cannot be increased during the summer. For more than 30 years now they have been producing at the threshold of full capacity all year long. But they still cannot meet the demand. Only last year, production had to be decreased somewhat in a few breweries during the colder months because it was impossible to reckon with the effect of price increases. It is well known that price increases affected imported beer to a greater extent. Understandably, this lowered demand. But foreign beer, ordered during the previous year and arriving on schedule, had to be sold. Since beer cannot be stored for a long time, the beer industry had to lower its production periodically.

The Factories Cannot Keep Up

Last year's lesson was learned for this year. During the first and fourth quarters, only 100,000 hectoliters each are being imported, which is half of last year's amount. Larger quantities are imported during the summer months. Dealers' orders show that the lower demand resulting from last year's price increases is a thing of the past. Demand is on the rise again. The catering industry and food businesses are ordering more beer. The limiting effect of the price increases thus proved to be temporary, and we now have reached the point again where it is impossible to assess how much beer would be consumed if the supply were completely adequate.

It is favorable, at any rate, that the Hungarian beer industry this year can produce 400,000 hectoliters more than last year as a result of the Nagykanizsa brewery's retooling and the Bocs brewery's improvements. This made it possible to import 400,000 hectoliters less this year while maintaining last year's level of supply.

It is Cheaper at Home

It is certain that the most economical way of meeting the demand is to produce beer at home instead of importing it. Let us consider what is needed to make beer. Its most important raw materials are barley, hops and, of course, good quality water. The raw materials can be produced at home. We also have enough water, which makes up most of the beer. It is cheaper to brew beer domestically than to import huge quantities of water. It is no accident that almost all small towns in countries that consume much beer have their own breweries. This way they can supply the population with beer more economically and with low transportation cost. While our breweries are large, they must supply large areas. Beer is transported 200 kilometers from Budapest to Bekescsaba and Gyula. The breweries are large, but there are too few of them. Thus everything is in favor of realizing the improvements included in the long-range plans of the beer industry.

The beer industry is trying to increase capacity through modernization and expansion of breweries. It is also true that 80 percent of their production consists of inexpensive light beer simply because this beer's fermentation requires only 10 to 20 days as opposed to the 2 or 3 months needed for a stronger beer, such as the Bak beer, for example. Thus our factories are able to produce more beer with less fermentation time. In addition, most Hungarian consumers have become used to the Kobanya light, which is considerably cheaper than imported beer.

The consumers are demanding cheaper beers, and it is understandable that the industry is trying to meet the demand primarily by producing these. Better quality and more expensive beers also are being brewed, but they constitute only 5 percent of production. Hungarian beer drinkers like the Budapest, for example, a Pilsen type beer, but so little of it is produced that each store would have less than five bottles if all areas were supplied with it.

Bottles Are Also Needed

One more thing in conclusion: It was announced recently that the deposit for beer bottles has been raised from 1 forint to 2. The industry hopes in this way to increase returns of bottles. For, the breweries have a great need for the bottles since the industry cannot produce enough, and some of the foreign companies will deliver beer only if the bottles are returned to them. It is thus in the interest of all of us to take empty bottles back to the store so that the beer industry can use them again.

This, too, is part of production, and it can diminish the beer industry's problems.

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ENERGY MANAGEMENT TASKS, CONSERVATION MEASURES NOTED

Budapest EPITOANYAG in Hungarian No 6, Jun 80 pp 206-208

[Article by Istvan Varga, National Energy Management Authority: "Our Energy Management and Conservation Tasks"+]

[Text] Since the memorable 1973 oil price explosion, our energy management has consistently strived for calling the attention to the grave effects that endanger the economy because of the new energy prices. Because of the recent unfavorable changes in world economy and disadvantageous external influences, it has become an even more important task to moderate the increase of demand for fuel and electric power, to decrease our energy requirements and to change the energy structure. In other words, the changes demanded an examination of our energy policies, a new concept of long-range energy development, and a modification of the main tasks according to the new economic conditions.

Both the international and domestic price forecasts indicate that we must be ready for permanently high and increasing fuel prices. The increased fuel imports and the fact that imports from socialist countries cannot be increased any further, meant a huge burden on the balance of payments of the national economy even in the present five-year plan. CEMA's long-range energy plans give us an opportunity primarily to meet our demand for electric power up to 1990. The imports of hydrocarbons cannot be increased after 1980 in a traditional way. In summary, the acquisition of energy will be more difficult after 1980. This means that our increasing demand for crude oil and other energy fuels must be met with capitalist exports. However, this will undermine our efforts to improve our capitalist balance of payments.

At the same time domestic conditions also are becoming more difficult, especially as far as the development of the domestic energy-producing branches is concerned. It is well known that energy investments tie down large sums of money, their term of production is long and our economy was

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+A lecture given at the Thermal Insulation Conference in Keszthely, 1979.

always short of capital relative to our demand for extensive development. The investment demand of the energy-producing branches tied down 40 percent of all industrial investments in the Fifth Five-Year Plan--as opposed to 30 percent during the Fourth Five-Year Plan. The surveys indicated that if our demand for energy continues to increase at the pace of the last 10 years, this ratio will be as high as 50 percent. This, however, could be guaranteed only at the expense of other production investments whose task, on the other hand, would be precisely to help establish a balance of payments of the national economy.

In the present situation, special attention must be payed, no doubt, to an energy development which is in harmony with the requirements of our entire economic development.

The conditions under which the primary objectives of our long-range energy policies were determined are the following:

--slow down growth of demand for energy;
--exploit economical domestic energy sources to the fullest;
--develop in harmony with the goals of socialist integration;
-minimize purchases of hydrocarbons;
-and, lastly, make energy management play an active role in an efficient and economical use of energy and in influencing demand and the fuel structure.

There are two ways in which the national economy's demand for energy may be decreased, namely, by decreasing consumption and by increasing energy conservation. It is a fact that the present limits of our economic growth--and, accordingly, the decrease in internal use--has a moderating effect on energy demands. The main task is, however, to decrease demand by organizational measures, technical development and a new production structure. In addition to coal, the hydrocarbons and nuclear energy, it has become imperative to make use of the fourth energy source: energy conservation!

In accordance with the requirements and the factors mentioned above, the quantitative provisions for the long-range objectives have been formulated. According to these,

--the increase in the national economy's total energy consumption must not exceed 3 percent annually between 1980 and 1990; an increase of about 5 percent is allowed for consumption of electric power;

--the use of domestic energy sources must be increased and, at the same time, demand for crude oil must be decreased; the proportion of hydrocarbons must thus decrease in 10 years from an annual 63 percent in 1980 to 57-58 percent.

The provisions above also prescribe a decrease in domestic energy consumption, through energy conservation, amounting to an oil equivalent of about

1.2 million tons in 1985 and 3-3.2 million tons in 1990. Despite all this, our energy consumption during the Sixth Five-Year Plan will increase by about 15-16 percent. Within this total,

--the consumption of converted energy sources, especially that of electric power, will increase more rapidly;

--as a result of changes in life style and an increasing demand for converted energy such as electricity, remote heat and gasoline, the proportion of the public/community sector will dramatically increase in the final use.

The main road toward a decrease in demand for energy leads through a change of economic structure and technical development. In the present economic situation, however, the measures which yield immediate results either through limitations or coercion, play an extremely important role.

Such measures were taken several times recently. These included:

--an order by the minister of heavy industry regarding the regulation of heating in public buildings, the essence of which is that it not only specifies the lowest degree of temperature that must be kept during working hours, but also defines, above a tolerance of 2 degrees, the concept of overheating, imposing mandatory measures to stop overheating;

--another order in heavy industry regarding a limitation in the use of electric heat radiators and the issuance of licenses. The circulation of heat radiating appliances with an output of more than 1.5 kW has also been banned. (The objective of the decrees is to decrease the burdens of efficiency, and their explanation is that electric heating appliances with a total of 1,000 MW have been circulated in recent years.);

--a speed limit of 80 kmph on highways and 100 kmph on freeways, effective this summer and, although this caused debates, it resulted in a 5 percent decrease in gasoline consumption in the third quarter of 1979 when compared with the same period of the previous year, in spite of the fact that our car pool increased by 100,000;

--in order to keep consumption on a specified level, central economic measures were taken to ration the fuel supply to certain large enterprises;

--the State Planning Commission issued a resolution that the personal incomes of enterprise executives will be contingent in the future on their enterprise's efficiency in using energy;

--and, finally, although the order has not yet been issued, I will mention that management, commercial and other institutions are going to be required to keep their consumption of essential energy sources, such as oil, electric power and coke, 5 percent below their 1978 level.

These measures have already yielded some initial results in the present slower pace of economic growth, because the use of electricity has significantly decreased in recent months instead of increasing as usual and as planned, and demand in peak periods has decreased by several hundred megawatts. Total energy consumption, on the other hand, has increased only slightly since 1978, and this can be reduced to zero by the end of the year.

Prices increases have a very strong limiting effect--not by direct coercion, but by economic interest. They also work as an incentive, because they help in regrouping the financial assets into measures that serve conservation. The price increases in 1979 primarily affected the population, but those in 1980 will affect the producers again. We believe they will boost the interest in energy rationalization.

All of this also includes the clear recognition that, in order to increase the efficiency of energy use, it is essential to develop technology, that is, an industrial background which will supply materials, machines, equipment and appliances--the new and more up-to-date means of conservation. Often today it is the consumer, urged and coerced by us, who represent the real demand of the market.

This is a good phenomenon where only our slowness and inability are the causes of dissatisfaction, but it does not help where the requirement is the development of an entire national economic branch. Thermal insulation, the topic of our conference, must also be considered such an area.

Realizing this, the economic management unanimously supported the technical-economic conception which was prepared by the Ministry of Construction and Urban Development for developing this industrial branch. The significance and importance of the question for energy management is shown by the following:

--heating takes 25 percent of the total energy consumption because of heat loss in the buildings and because of bad insulation;

--27 percent of the technological heat consumption and a further 7 percent of the total consumption occurs in the form of thermal energy where lack insulation is a significant factor in heat losses;

--heat consumption requires not only energy, but in most cases--because of the winter season--heavy investment and efficiency as well.

The task of the industrial branch in developing optimal insulations has been set forth in detail by Comrade Dr Janos Szabo, state secretary. He has also shown how much energy can be saved by heat conservation.

I could add to all of this that the long-range forecasts only increase our interest in this area, for the price increases of energy materials precede the increasing costs of investments and thus the costs of manufacturing

insulating materials which requires much energy. But I believe it is even more important to emphasize the effect of improved insulations on efficiency. This is especially important today when the material resources of the national economy are overburdened by investments.

Energy conservation itself also means savings in investments, for the energy saved may be used for meeting other increasing demands without opening a new mine, oil well or nuclear power plant.

The effect of investments may be illustrated by an analysis of energy use in apartment construction. Even according to experimental results, a 30 percent saving in apartment heat requirement may be attained by decreasing heat losses. This means in practice that the investment costs of heating and the heat supplying system will also be reduced by the same degree.

Since we may reckon with about 150,000 condominium-type multilevel apartments in the Sixth Five-Year Plan, and since the average specific costs are 60,000 forints per apartment, the 30 percent decrease in costs would be approximately 3 billion forints, and this would be enough for the total planned investment of the insulating industry. This does not even take into account the 50,000 tons of oil that can be saved annually--even if the saving is only 25 percent per apartment--which, alongside an annual cost of 250 million forints, is an addition to a one-time energy source of similar annual ouput, or an import-compensating investment of about 1 billion forints.

An important task follows from this: We must make the planners reckon with the optimal possibilities of materials and equipment, or at least not burden them with the negative sum total of risk factors, because of which all our establishments are oversized. To illustrate this, I quote from one of the lectures at the Heat Supply Conference in Pecs which illustrated the present situation with measurement data concerning eight buildings. The building. in question were able to maintain an average of +22 degrees, Celsius even when the outside temperature was between --25 and --36 degrees! It is only natural that these buildings have proportionately large--suitably oversized--systems of lines and heater capacity. The amount of gas or the oil tank for the heater is specified, of course, by the blueprint data and, if the planners want to be on the safe side, they will increase the requirements!

In our case it means not only that we have to carry needless investment burdens, but also that our systems operate even further from the optimal point, although even the measurements are--because of objective and less objective reasons--far from the most frequent, which is an indication of economic efficiency.

The above leads to the conclusion that we must continue to put the attainable economic results into the focal point of our energy management and energy conservation, and that both science and technological development, as well as practice, must help implement rapid realization of our goals.

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MACHINE INDUSTRY INVESTMENTS AIM TO MODERNIZE PRODUCTION STRUCTURE

Budapest NEPSZABADSAG in Hungarian 27 Jul 80 p 1

[Text] In the opinion of the Ministry of Metallurgy and Machine Industry, the machine industry investments planned for the current five-year plan will be completed by the end of the year with one or two exceptions. The two major reconstructions, those of Ganz-Mavag and the Hungarian Ship and Crane Factory, are not scheduled for completion till the seventh five-year plan. Several important enterprise investments began in the machine industry this year. Worthy of note are the 2.3 billion reconstruction at the Hungarian Railroad Car and Machine Factory which is aimed at increasing dollar-accounting exports. As a result of this the Gyor enterprise will double exports of machine industry products to the USA.

Half a dozen factories of the Agricultural Machine Trust are already in the process of implementing sizeable investments intended to provide domestic agriculture with more modern machinery and to increase the dollar-accounting exports of the enterprise. Within the bounds of the investment, production of diving pumps, hydraulic work cylinders, and encased transmission shafts is to be increased. The latter transmit force between tractors and agricultural work machinery. The Trust will also expand its contacts with the Claas firm of the FRG. The CEMA countries signed a multilateral agreement concerning specialization of production of nuclear power plant equipment last year in Moscow. It is on the basis of this that investments have begun at the Cutting Machine Factory /Apritogepgyar/, the April 4 Machine Industry Works, the Special /Egyedi/ Machine Factory of the Csepel Works, at Ganz-Mavag and the Lang Machine Factory. The aforelisted are preparing to produce cassette transloading cranes, water treating, reactor-servicing and reactor-repairing equipment. Some of this equipment will be ready for shipment to nuclear power plants in the GDR and Czechoslovakia by next year.

In response to market demand, the Ikarus factory has also begun substantial enterprise investments this year. It is expanding production of buses which can be assembled at their destination. However, some of 1.2 billion forints will also be spent to improve quality and to provide protection against corrosion. The enterprise has begun buying machines and equipment needed to manufacture the new types of buses.

In addition to the foregoing greater investments, 50 smaller machine industry investment are now underway. Of these, 40 will probably be completed this year. However, in some cases original target dates cannot be met. Thus increased production of chemical industry machinery and fruit processing production lines by the Lang Machine Factory will be delayed. Completion of the foundry of the Machine Tool Industry Works to be located at Esztergom will not meet the deadline, and there will be slippage in the target date for completion of the investment intended to expand production of broad current switchboard housings at the Electrical Equipment and Appliance Works.

In the opinion of the Ministry, these target date slippages are due primarily to faulty planning, organization and implementation; financial problems play a much smaller role in this matter.

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MINISTRY OF METALLURGY, MACHINE INDUSTRY IMPROVES MANPOWER MANAGEMENT

Budapest NEPSZAVA in Hungarian 16 Jul 80 p 3

[Text] Adjustment to the world market is impossible without substantial increase in productivity. Not only resources but manpower must be managed more efficiently. To this end, Bela Rabi, state secretary of the Ministry of Metallurgy and Machine Industry, instructed the enterprises of the portfolio to prepare and implement plans for the modernization and development of manpower management last November.

There were indications of improved manpower management as early as 1979. Some enterprises boldly shut down superfluous work places. The specialists thus released were transferred to shops, offices and factories where there was acute shortage of manpower. In addition to improving work discipline, these initiatives served as verifiable, practical examples to other enterprises, economic and social leaders. Most enterprise leaders understood the essence of the state secretary's instructions well and did not hesitate to seek out local contradictions in manpower management.

Only 24 metallurgy and machine industry enterprises failed to take action. The implementation of the tasks they set for themselves is largely unverifiable, because they are couched in too general (not to say vague) terms. Target dates for completion of certain partial tasks have been set loosely on the basis of estimates which will give the impression of progress. Naturally these enterprises were required to draw up new plans or supplementary plans.

Altogether, manpower management and more efficient deployment are planned in line with the stricter management requirements at the enterprises under the jurisdiction of the Ministry of Metallurgy and Machine Industry. Measures taken in the machine industry are in harmony with the main plan targets; they are somewhat less so in the metallurgical industry. Modernization of the management and decision making system is considered a task of primary importance everywhere. To simplify the picture drastically, this means elimination of main departments and departments which duplicate each other's work, assigning the released manpower to work directly related to production.

It is interesting but perhaps no surprise to aware persons that nearly every other enterprise feels that it is keeping more workers on board at present than are actually needed to sustain production and improve product quality. The majority of the enterprises intend to insure the efficient, substantive employment of manual and nonmanual workers through internal reassignment. The intolerable situation where one plant has superfluous manpower while another plant cannot operate valuable equipment or can operate it for only one or one and a half shifts due to lack of manpower is to be ended.

Plans reveal that a good many of the enterprises also count on so-called external regrouping. Despite mobilization of internal reserves, more workers would be needed. It is improbable that applicants will be found for all unfilled positions. Actually, only 12 enterprises have indicated that they are willing to gradually lay off a small percentage of their manpower as the result of reorganization.

It is encouraging that half the enterprises link modernization of manpower management with material incentives. It is true that one could also state that every other enterprise intends to conserve manpower without substantial incentives. Experience to date reveals that where changes in manpower are planned without modification of the incentive systems conceptions are not always realized.

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MORE FLEXIBLE REGULATIONS NEEDED TO OFFSET DISCREPANCIES IN FARM INCOME

Budapest FIGYELO in Hungarian 25 Jun 80 p 11

[Report by Endre Szollosi: "Increasing Discrepancies in Incomes"]

[Text] Differentiation in agriculture is not a new phenomenon. However, its causes, character and consequences must be examined from time to time. As far as the cooperative sector is concerned, its own characteristics are responsible as well for the differentiation. Of these, the following are the most important.

The organizational and financial conditions of large-scale farming were created in several phases and in various ways and degrees. Thus, from the very start there were significant differences between the farms.

In agriculture, from the outset, local characteristics (the quality and location of the land, etc.) significantly determine the standard and efficiency of production. The effect of unfavorable characteristics can in most cases only be reduced even through large investments. The regulation is relatively flexible, leaving more room for discrepancies in incomes than in the state sector.

The Causes of Tension

All of this played an important role in the fact that the joint farms, within the dynamic economic growth that characterized the sector as a whole, developed in different ways. There were significantly larger differences between the individual cooperatives than between the enterprises of other economic branches or state farms in the level and profitability of production, in personal incomes and in accumulation capacity. Essentially, this is the reason why the differentiation of the cooperatives comes to the focal point of interest from time to time.

The differentiation of the cooperatives is being studied by many people and by many methods. In the following, I would like to call attention to the movement of income differentiation and to a few related problems--primarily using the analyses made in this area by the Ministry of Agriculture and Food Administration.

Following the introduction of the 1968 economic management system, it was generally held that the differing economic growth of the individual enterprises is beneficial as long as this growth as a whole increases efficiency. Thus a certain differentiation in enterprise incomes and accumulation capacity is justified. Extreme differences in personal incomes may, however, create such social tensions which have a negative effect on the pace of production growth. Accordingly, the economic policies that are connected with the differentiation of cooperatives were focused primarily on decreasing the differences in the personal incomes of the cooperatives' members. Several changes in the tax and income regulating system were supposed to help in achieving this. During this period cooperative income taxes had to be paid from personal incomes, and the rate of accumulation of the gross income was tax exempt. The rate of increase of personal incomes was regulated by taxes on income increases.

The economic growth of the cooperatives between 1971 and 1975 indicates that we succeeded in reaching the most important goal in income policy. The joint farms that started in 1971 from a lower level as far as the per capita gross income is concerned, had a faster growth than the cooperatives which then had higher levels of income. The per capita personal income increased from 19,221 forints in 1971 to 25,774 forints in 1975, that is, by a rate of 7.6 percent annually. Within this, the annual increase was 11.2 percent in cooperatives with less than 12,000 forints per capita gross personal income in 1971, and 3.5 percent in cooperatives with more than 45,000 forints per capita gross personal income. This process indicates a certain leveling of personal incomes.

A Twentyfold Difference

While personal incomes have somewhat levelled, the differences between the joint farms increased in accumulation capacity and, within that, in raising development funds. This is shown by the average sum of development funds per 1 hectare in 1971-1975, which was:

--3,424 forints in cooperatives with below-average gross incomes,

--5,976 forints in the average cooperatives, and

--12,953 forints in the above-average cooperatives. The actual dispersion between the farms is even more apparent, however, if we compare the data of the farms which had the highest (32) and lowest (43) gross incomes in both 1971 and 1975. The difference in 1975 between these farms was sixfold in personal incomes, and twentyfold in the increase of development funds.

In order to lay a strong foundation for the Fifth Five-Year Plan, significant changes were effected in the regulating system of farming. One of these was the 1976 introduction of taxing gross incomes and, consequently, accumulation was no longer tax exempt. The primary goal of this step was precisely to moderate the increased dispersion of accumulation capacity.

The incomes of the cooperatives was strongly influenced also by the fact that during the period of the Fifth Five-Year Plan the regulators were changed several times, partly to achieve the economic goals, partly to pass on to a justified degree the "price explosion" of energy and raw materials in foreign trade, and partly to achieve a balance in the national economy.

The measure was characterized by the fact that the price increases of certain energy sources, capital goods and materials of industrial or foreign origin (e.g., fuel, artificial fertilizer, herbicide, industrial fodder etc.) increased production costs and this was compensated by increasing the purchase price of farm products. Needless to say, this kind of change is relatively beneficial for those farms whose production is above average and whose production costs are lower. Thus the balancing of extra costs through higher purchase prices further differentiated the incomes (profits). At the same time, the change in the rules on the use of income (the compulsory increase of surplus funds), on the other hand, influenced the amounts of the so-called "free profits" and thus the possibilities for raising incentive funds.

Decreasing Results

Experience shows that the farms of low productivity were not as able to adapt to and meet the requirements of the changes in the regulations that took effect after 1975 as the farms with better conditions were able to do. Thus the differences between the farms in enterprise results increased in the last few years. This is illustrated by the fact that between the years 1975 and 1978 about two-thirds of the entire cooperative sector's unaccumulated production value increase, and almost the entire net production value increase was yielded by enterprises with higher-than-average production standards. This group of farms, which used 35 percent of the cultivated land, yielded in 1978 more than 68 percent of the entire sector's results.

Income differentiation increased further in 1979. The farms were not able to make up for the entire losses caused by bad weather--especially in cereals. Production was lower than in the previous year in nearly 52 percent of the farms, and only 30 percent of them were able to increase their earlier incomes. It is noteworthy that the production decrease was relatively lower in farms with higher-than-average gross incomes than in those with average and below-average incomes.

There was a significant dispersion in results as well. According to the
/9 balance data, the individual farms had average profits of 10.7 mil-
n forints, but 43 percent of the farms with profits did not even reach
of this sum, and one-fifth of them had profits of less than 1 mil-
l forints.

The differences in profits show up, enlarged, in the sums of development funds that come from the profits. This is shown by the data below which were taken from the 1979 balance sheets.

Breakdown of Farming Cooperatives According to the Size of Development Funds Drawn From 1979 Profits

Item	The Development Fund (in millions of forints)						
	None	.1-1.0	1.1-3.0	3.1-5.0	5.1-10	over 10	Total
Proportion of cooperatives, in percent	24.5	15.5	24.0	13.2	14.2	7.6	100.0
Proportion of development funds, in percent	--	2.3	13.6	14.6	28.0	41.5	100.0
Development fund per farm, in millions of forints	--	0.5	2.0	3.9	7.0	19.2	3.6

Thus last year there was practically no increase of development funds coming from profits in 550 joint farms, that is, in 40 percent of the cooperatives. On the other hand, less than 20 percent of the cooperatives (296 farms) has 70 percent (3.3 billion forints) of the cooperatives' development funds.

The situation is even more difficult in cooperatives which work under unfavorable conditions. Here nearly two-thirds of the farms (220 cooperatives) were either not able to create development funds from profits, or these funds were minimal (.5 million forints per farm).

Possibilities for Development

The extreme differences in last year's development fund raising affected this year's development possibilities of the joint farms. Cooperatives that yield high profits and have significant development funds belong to the farms whose equipment is good or is at least above average and whose production capacity is already established. Thus they want to use their development funds primarily for various completing and supplementing investments (e.g., agro-chemical centers, storages and processing plants). (Incidentally, the limiting of subsidies also has similar effects.) At the same time, many farms do not have enough funds even to purchase the most essential machines. (This is so inasmuch as, because of lower assets, even the amortization funds are smaller in farms with low gross income and low profits.

At the beginning of this year the regulating system of agricultural enterprises was modified as well. The industrial materials and capital goods

became more expensive, the purchase prices of farm products were raised, the state subsidy for farming was somewhat decreased, and taxing and income regulations were reformed.

We do not have yet, of course, enough reliable information on the effect of the new regulations. On the basis of the experiences gained so far, we may surmise, however, that the measures taken in early 1980 and later did not significantly change the earlier tendencies in income differentiation.

A Factor Fostering Growth

The cooperatives' economic development during the past period was characterized by a different rate of economic growth in each enterprise or enterprise group. Because of characteristic conditions and circumstances that permanently affected the process, the differentiation between the joint farms was more extensive than in other areas of the national economy.

This contributed to a large extent to the dynamic growth of production. For the supplementary investments were for the most part concentrated in farms which operate under more favorable conditions and thus have a higher production and higher income, and which yield more favorable returns.

It is a significant result that we succeeded to diminish the unjustified differences in the membership's personal incomes by the conscious development of the tax and income regulating system. (Although the differences in the incomes of the cooperatives' members are still significantly bigger than in industry or the state farms.)

However, the large-scale polarization of profits and, especially, of development funds, is causing more and more problems. Whether we examine the cooperatives according to gross income or the size of profit, we find 400 to 450 joint farms where the enterprise income offers no scope for operation of the incentive system. Most of these have financial difficulties either because of unfavorable conditions at the production site or because of an inadequate production structure, bad management, lack of equipment, etc.

The results in these farms do not allow any development, and even the replacement of deteriorated equipment is problematic, since the amortization must in many cases be used for paying debts (advance credit for development funds, financing of lack of funds, etc).

To make farm production meet the increasing requirements, it is absolutely necessary to use the production capacity already existing in this group of farms. This depends mostly on whether we will be able to change the production structure and to create the other conditions for efficient production as soon as possible through a more flexible regulating system, pricing, subsidy, credit, and taxing.

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BRIEFS

MORE HORTICULTURAL PRODUCTION SYSTEMS--The Ministry of Agriculture and Food has issued permits for the operation of two additional production systems: One is the production system of the Eger Vineyard and Wine Cellar; the other the Drupe Fruit Production System of Torokbalint. With these two, the number of horticultural production systems has increased to 34. They organize the production of 530 partner outfits. The systems operate on 80,000 hectares which account for over one-fourth area devoted to the large-sacle vegetable, fruit, grape and herb production. It is expected that the number of systems organizers are unwilling to extend cooperation beyond a certain region. The largest integrated areas have evolved in fruit growing. First among these there is the Nyirkert association which manages 9,500 hectares. Results indicate that yields increase from 8-20 percent within the system. As compared to independent operations, yields of the systems average 10-30 percent higher for grapes, winter apples, peaches and tomatoes. Operating costs within the system are 7-20 lower for grapes, paprika, red onions, peas than those of large producers who are not members. [Text] [Budapest NEPSZABADSAG in Hungarian 18 Jul 80 p 4]

HOPE FOR MORE BARLEY--Barley accounts for merely 5-6 percent of the cereal grains harvested annually. Over the past 20 years per hectare yields of wheat have increased by 240 percent, those of corn by 210. At the same time barley yields have increased by nearly 80 percent, counting winter barley alone. Per hectare yields of spring barley have increased a mere 1.5-fold during this period. Although barley production is as ful y mechanized as wheat, the varieties grown fail to meet requirements: winter barley will not withstand cold and has weak stalks; so far, no method has been found for the intensive cultivation of spring barley. The methods used in Czechoslovakia should be adopted, especially since barley is grown chiefly in the northern counties, all but adjacent to Czechoslovakia. It should be taken into consideration that in some parts of the country barley can be raised far more economically than other grains. In the past the grain programs favored wheat and corn. Now the time has come to determine where it would be worth growing more barley despite poor seed selection. [Budapest MAGYAR HIRLAP in Hungarian 16 Jul 80 p 7]

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STRUCTURE OF INTERNATIONAL TRADE FLOW, INTEGRATION ANALYZED

Warsaw HANDEL ZAGRANICZNY in Polish No 2, 1980, pp 29-34

[Article by Jerzy Sleszynski: "Structure of International Trade Flow and Problems of Integration"]

[Text] International economic integration is understood as the formation of a uniform, internally coherent economic organism embracing at least two countries.* The process of integration leads to the formation of strong structural bonds between countries, forming a separate economic organism. The process includes such activities as establishing contacts with other countries, trade exchange, and even the union of national markets, cooperation in the broad sense (international agreements, exchange of experience, international enterprises, joint investment and scientific research work), specialization and share in the international division of labor. The main emphasis should be placed on mutual trade exchange, since this type of connection between countries continues to play the dominant role in processes of integration. The term economic integration is clearly understood regardless of the sociopolitical or economic method of realizing the goals of integration. Courts of justice are justified only in considering concrete phenomena in a definite time and place. In this sense the trade flow between countries assumes importance in integration regardless of the motivation of the participants in the on-going process of integration.[1] Analysis of the structure of international trade flow can provide information about the strength and intensity of connections between countries or groups of countries, since these connections are an essential component in every process of integration.

This article makes an analysis of the structure of international trade flow from the viewpoint of the problem of integration. Research conducted with the aid of the delta coefficient, standardized by Gerhard Fink,[2] primarily concerns bilateral export-import flow, considered from the viewpoint of its importance for the process of integrating trade exchange partners. An attempt is made to measure economic integration on the basis of international trade structure. One general stipulation is necessary: it is impossible to construct a comprehensive indicator for a phenomenon as unmeasurable as integration. This is the source of the fragmentary nature

of the analysis, not free of subjectivism. The restriction of integration to the subject of international trade already constitutes a significant limitation. The choice of the standardized delta coefficient is an additional element limiting the scope of research. Only one aspect of the extensive process of integration is considered, embracing almost all spheres of management. Nevertheless the results obtained seem to be of interest from an economic point of view.

The matrix of international trade flow includes mutual flow of goods, services or capital between individual countries or groups of countries. The shipping magnitudes of the matrix are the sums of successive lines and columns. There is also a total magnitude of international trade turnovers which is the sum of line or column shipping magnitudes. Within the matrix the following designations are accepted:

Xij is the international trade flow from country i to country j or from group of countries i to group of countries j, where an essential point is the stipulation that the internal flow for individual countries (when i=j) is not taken into consideration.

The total magnitude of exports from country (group of countries) i is expressed by the formula:

$$x_i = \sum_{j=1}^{n} x_{ij} \qquad i = 1,2,\ldots,n$$

The total magnitude of imports to country (group of countries) j is expressed by the formula:

$$x_j = \sum_{i=1}^{n} x_{ij} \qquad j = 1,2,\ldots,n$$

The total magnitude of international trade turnovers is the sum of all flow between partners participating in the exchange:

$$x_{..} = \sum_{i=1}^{n} x_i = \sum_{j=1}^{n} x_j = \sum_{i=1}^{n} \sum_{j=1}^{n} x_{ij}$$

All elements in the flow matrix are calculated on the basis of a uniform principle of counting CIF or FOB, or either including or excluding the costs of transportation, insurance and so forth.

The delta coefficient (designated by the Latin letter d), which we shall use in the rest of this work, is a development of the concept of an interregional trade coefficient of Leontief and Strout.[3] The delta coefficients have been applied in international analyses of the processes of economic integration and in predictions of foreign trade in the work of the UN Economic Commission for Europe. As a standard of structural dependence

in international trade the delta coefficients are most commonly presented with the aid of the following equation:

$$d_{ij} = \frac{x_{ij} x}{x_i x_j} \qquad i,j = 1,2,\ldots,n$$

An important virtue differentiating the delta coefficient from other structural measures is the fact that the deltas are freed from the effect of x_i (total magnitude of exports of consigner i) and x_j (total magnitude of imports of consignees j) or the magnitude of the mutual turnovers of each pair of trade partners i, j. The delta coefficients regard both the demand and the supply side of the process of trade exchange. They describe the activity of factors defining the economic distance between countries (groups of countries) independently of the trends of their total exports or imports. The delta coefficient can be interpreted as a measurement of the relative economic approach between countries, with the distance being understood in the sense of a model of gravitation and potential, or as a set of natural and artificial factors conditioning contacts between countries.[4] Economic distance is composed of natural factors, such as geographic distance or the possession of a common boundary, and artificial factors introduced by man, such as trade policy, cultural influences, a psychological element and so forth. Thus the concept of economic distance is more involved with difficulties associated with overcoming economic separateness than real geographic (spatial) distance. Assuming that the natural factors are subject to rather slow changes, it is possible to investigate the impact of trade policy and processes of integration on the intensity of international trade contacts on the basis of the variability of the delta coefficient. In a general way the level of the delta coefficient depends on connections between the political, cultural and historic nature and the geographic distance. On the other hand changes in its level depend on changes in the economy, in economic policy and in trade policy. The delta coefficient adopts values along the stretch from zero to the highest definite value as follows:

$$\sup d_{ij} = \min\left\{\frac{x}{x_i}, \frac{x}{x_j}\right\} \qquad i,j = 1,2,\ldots,n$$

The essential value achieved by the delta coefficient is unity. This is the case of complete independence of the total value of exports (originating from i) from the total value of imports (to j) and is expressed in the following way:

for each i, j: $x_{ij} x = x_i x_j \Leftrightarrow d_{ij} = 1$

Here we have to do with international trade flow which is not subject to any preferential or discriminatory factor causing relative disproportion.

The delta coefficient is an unstandardized measurement, which means that its absolute values are comparable in a limited way when the involvement of international exchange participants is not identical. One of the attempts to standardize the delta coefficient is the diagnostic scale of integration (dsi), constructed by G. Fink.[3] According to the concepts of the Austrian economist, it is necessary to define in advance the maximal possible value of the delta coefficient in order to formulate the standardized measurement. Then flow from i to j is equal to the total exports of partner i or the total imports of partner j:

$$x_i < x_j \Rightarrow d_{max} = \frac{x_i}{x_j}$$

$$x_i > x_j \Rightarrow d_{max} = \frac{x_j}{x_i}$$

The principle of standardization proposed by G. Fink is included in two normalizing expressions:

$$d < 0 \Rightarrow dsi = d - 1$$

$$d > 0 \Rightarrow dsi = \frac{d-1}{d_{max}-1}$$

The standardized coefficient is included in the sector (-1,1). The following combination presents the conformity of the characteristic points of the sector with the values of the delta coefficient:

$$d = 0 \Rightarrow dsi = -1$$

$$d = 1 \Rightarrow dsi = 0$$

$$d = max \Rightarrow dsi = 1$$

There is no doubt that the two party membership of the normalizing expression does not permit any unambiguous evaluation of negative and positive values of the dsi coefficient. The basis of standardization is the delta coefficient which, from its very nature, behaves unsymmetrically. Difficulties associated with a perfect evaluation of the scale of research phenomena tend toward a further search for better formulated normalizing expressions. However, without going into any deeper analysis, we believe that the dsi coefficient meets indispensable theoretic and practical requirements and can be successfully used to analyze the structure of international trade flow.

For purposes of analysis the participants in international trade exchange have been divided into six groups. The purpose of dividing the countries of the world was to form several groups which would automatically indicate internal relations between the countries. The choice fell on existing and active economic groupings, EEC, CEMA and OPEC, the Organization of Petroleum Exporting Countries. The first two groupings exhibit strong bonds of an

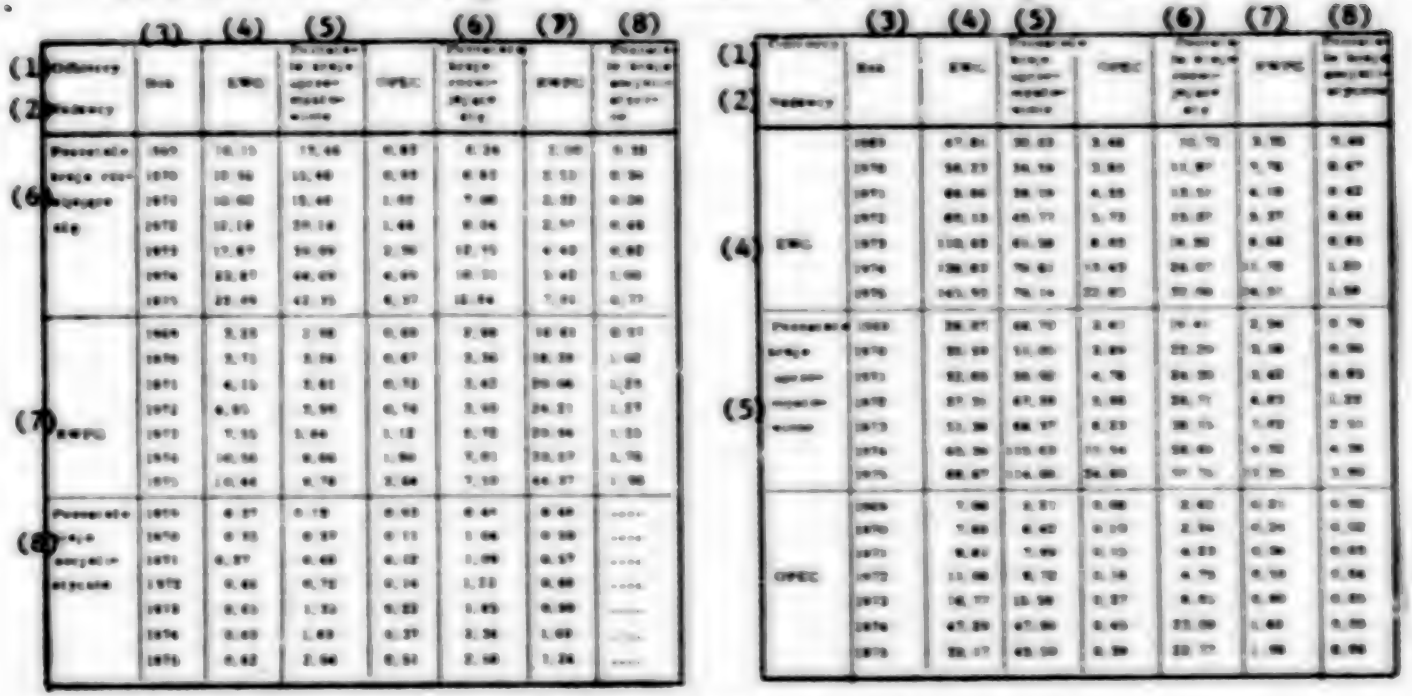
economic nature exclusively between the member countries, with each of them realizing the goals of integration in a different way. Corresponding to these groupings we have distinguished groups of countries with a similar economic and political profile. This facilitates making a real evaluation of the efficiency and effectiveness of each grouping and makes it possible to deal with world trade in a comprehensive way. The CEMA grouping is complemented by the other socialist countries, the EEC by other industrial countries, and OPEC by other developing countries. This precise classification of separate groups of countries agrees with the division found in the monthly UN reports, the MONTHLY BULLETIN OF STATISTICS.[6] The time frame of the analysis includes the years 1969-1975.

The trade flow between individual groups of countries can be presented in a collective matrix. This makes it possible to observe major tendencies and to select years of interest from the point of view of evaluating processes of integration (Table 1). Some regularity can be seen in the data selected. Trade flow in 1969-1972 is relatively stable. Occurring trends are usually rising and change previously observed values to a slight degree. During the period mentioned the structure of reciprocal contact did not undergo any enormous changes. The year 1973 indicates some animation, but only 1974 brought significant quantitative changes, mainly as a consequence of the increase in prices for goods. The apparent trade boom in 1974 and the following regression and restriction on the previous tendency in 1975 tend to draw special attention to the last years of the period under investigation. The matrix of measurements of the dsi scale of integration concern 1969 and 1972-1975 (Table 2). Selected export-import flow will be discussed first. The matter of integration of international economic groupings is given a special place.

Trade flow from EEC countries to the CEMA grouping illustrates successive changes of a political nature. As a result of normalization of the political situation in the world the measurement of the scale of integration increased from the value of -0.62 to the value of -0.43 in 1974. The year 1975 brought an unexpected turn and the dsi amounted to -0.48. In practice this meant excluding both groupings again and returning to internal integration at the expense of other trade contacts. Despite the growth in the absolute magnitude of flow from EEC to CEMA, its relative growth turned out to be excessively small in comparison with the growth of exchange within each grouping.

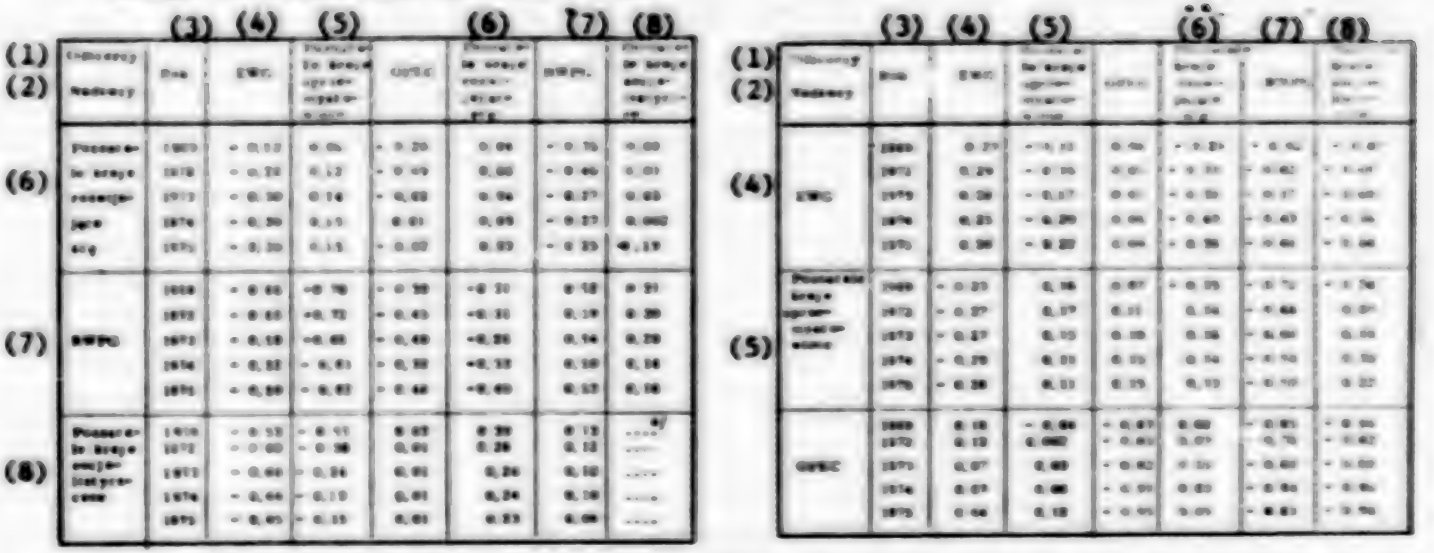
The dsi index for EEC exports to other socialist countries in 1969 amounted to -0.47, and almost reached the limits of disintegration of -0.66 in 1972 as a result of the constant tendency to weaken trade contacts. This was a typical turning point, because the dsi amounted to -0.44 in 1975, which means that trade flow to other socialist countries, approaching the normal level, exceeded flow to the CEMA countries in this regard.

Table 1. Matrix of International Trade Flow for Six Groups of Countries in 1969-1975. Flow Magnitude Calculated by FUB; in Billions of U.S. $.



Our Own Elaboration from UN MONTHLY BULLETIN OF STATISTICS for 1974-1978.

Table 2. Tables of Measurements of dsi Scale of Integration for Six Groups of Countries in 1969-1973.



a) Trade flow within the other socialist countries group does not appear in the matrix, because of a virtual lack of data on the minute trade exchange of the countries characterizing this group.

Source: Our own elaboration on the basis of data in Table 1.

Key to Tables 1 and 2:

1. Consignees
2. Shippers
3. Year
4. EEC
5. Other industrialized countries
6. Other developing countries
7. CEMA
8. Other socialist countries

Table 3. Table of Measurements of dsi Scale of Integration on Internal EEC Turnovers, of Other Industrialized Countries and of CEMA.

	1958	1963	1968	1969	1970	1971	1972	1973	1974	1975
(1) EWG /6/	0,06	0,13	0,16	0,16	0,18	0,26	0,31	0,31		
(2) P.E.u	0,07	0,04	0,14	0,12	0,14	0,17	0,21	0,22		
(3) RWPG	0,11	0,46	0,62	0,60	0,58	0,61	0,61	0,62		
EWG/6/								0,25	0,27	0,25	0,23
P.E.u								0,18	0,15	0,11	0,11
RWPG								0,58	0,54	0,48	0,53

Source: G. Fink: "Measuring Integration." Our own elaboration of data for 1975

Key: 1. EEC
2. Other industrialized countries
3. CEMA

The matter of trade flow from other industrial countries to EEC appears interesting. The magnitude of the dsi index of -0.28 is found for this in 1975. This magnitude is relatively stable throughout the period and points out a constant unwillingness of both groups of countries to treat trade exchange as a component in the process of economic integration.

On the other hand, the involvement of other industrial countries in exports to other socialist countries exceeds the level of exchange which would have resulted from a normal distribution of exports among all trade partners. In 1975 this index amounted to 0.22, which means that this partner took advantage of special capacity in the export being analyzed. The growing importance of this flow for both groups of countries is underscored by the rapid rate of growth of dsi, which amounted to only -0.24 as late as 1969.

Trade relations in exports from OPEC to EEC weakened markedly. The integrating significance of flow in 1969 was expressed by the index 0.18, while in 1975 it took shape at the level of 0.04. This meant that the EEC countries were not able to maintain their position as the main trade partner of the OPEC countries as a result of the constant rise in prices for power resources. It appears that other industrial countries will occupy their position.

The OPEC grouping is essentially composed of crude oil exporters, and here we can speak at most of political integration, expressed by joint decisions relating to the prices for exported products. The dsi index, which came to -0.95 for 1975, is an expression of the complete disintegration of trade within OPEC. At the same time this is the lowest dsi value in the entire table presented. The member countries simply do not have any motivation to increase their mutual contact by trade flow. Their basic product, crude oil, is of significance as a source of foreign exchange from external trade partners.

The other industrialized countries are happy to import from other developing countries, and the intensity of this flow is evaluated at a level of 0.15 by the dsi for 1975. Here we have to do with a tendency of growing intensity in trade turnovers, only slightly restricted in the later years of the period under investigation.

On the other hand trade flow from other developing countries to CEMA had a dsi of -0.40 in 1972, but this was considerably changed in following years. A partial approach of the two groupings was documented by the magnitude of the dsi index of -C.25 in 1975. It appears that a greater intensification of mutual trade contacts can be expected in this area.

The CEMA countries were never united in exports to EEC. Nevertheless the negative dsi value of -0.66 for 1969 increased to -0.52 in 1974 as a result of intensified trade contacts between countries. However, as early as the following year, there was a drop in the dsi standard to the level of 1973, namely to -0.59. In short trade flow between the two major groupings deviated considerably from the level which would have been reached had there been no discrimination in trade contacts. This is where the problem of economic and political groupings shutting each other out shows up. This problem will be discussed below in a little more detail.

Contact between CEMA and other socialist countries is weaker than could be expected. The normalized delta coefficient for CEMA exports amounted to 0.16 in 1975. The slow separation of both groups of countries is of a systematic nature, since even in 1969 the value of the coefficient was relatively high, amounting to 0.31. In 1975 the minimal increase in the standard can be explained by a constriction of the export markets of socialist countries.

Trade flow from other socialist countries to other developing countries indicated a considerable approach between the two groups of countries, and the index came to 0.30 in 1969. The tottering of this situation after 1969 led to the dsi indicator reaching a value of 0.23 in 1975.

Evaluations referring to trade flow from other socialist countries to CEMA are interesting. In the 1969-1975 period the normalized delta coefficient diminished in value from 0.13 to 0.08. The intensity of contact between of countries then approached the normal level,

corresponding to a zero dsi value. Taking into consideration the fact that the dominant role among other socialist countries is played by China, we should not expect any decisive changes in trade policy in the near future.

The compilation of indices of the scale of integration (Table 3) over a period of almost 30 years, developed by G. Fink, provides good material for deepening the analysis of the process of integration by basic economic and political groupings. The results obtained by G. Fink are close to those presented in this work. In consideration of the increase in EEC by new member countries, the year 1972 is described by two coefficients corresponding to the situation before and after the incorporation of the three new countries.

In the case of the EEC the key period for the formation of intensive external contact was 1960-1970. The first postwar years did not foretell any close connection among the countries which formed the EEC in accord with the Treaty of Rome, signed in 1957. The stipulations of the Treaty went into effect in 1958, but only in 1965 did it bring vital changes in the trade flow between the member countries. In 1965 the dsi amounted to 0.26, while it was 0.31 5 years later. The intensity of trade contacts (and of their importance in integration afterward) weakened when three new countries joined the six countries forming the relatively compact grouping. Great Britain, Ireland and Denmark came to the "continent" and the previous strong connections. At the same time there was a move to intensify trade contacts with socialist countries, and in contacts with developing countries there occurred an unprecedented element of partnership. The three factors mentioned did not favor continuation of the high level of the scale of integration standard which amounted to 0.25 in 1974. Two factors again influenced the dsi in 1975, a minimal growth since it barely reached the value of 0.26. One was a reflection of the successive changes in the price of crude oil, occurring in 1973-1975. The second was the appearance of a tendency to exclude groupings from external effects, their own reaction to the broad establishment of trade limits, especially with socialist countries and developing countries. This phenomenon should not be mistaken for self-sufficiency, because it is based only on the priority of the interests of the matrix grouping over other trade contacts with external partners. In the very near future we can expect a further deepening of intensification of mutual trade contact among the EEC countries, a precursor of which is the formation of a joint currency system.

In 1948 a new community of socialist countries was almost formed already, and the dsi index amounted to 0.46. However, the critical momentum was the inauguration of CEMA in 1949. In the following years the political situation became an additional factor consolidating the European socialist countries. In 1955 they achieved a dsi index with a value of 0.62. For a long time turnovers in CEMA were symptomatic of deeply incorporated integration. A weakening in mutual contact occurred only in 1972-1973,

when the political and trade situation stimulated greater than ever inclusion in international trade. The establishment of limits for exports and imports were reflected in the dsi index, which fell to a value of 0.54. In 1974 there was a minimal value for the CEMA countries of 0.48, which increased to the value of 0.53 the following year. Just as in the case of the EEC, the turn which occurred can be explained by a tendency to limit excessive weakening in the integrated community. The increase in the normalized delta coefficient does not mean a reduction in trade flow to other countries, but an intensification of flow within the grouping so that turnovers with external partners predominated in a relative way. Turnovers within the CEMA block were conducted until 1975 in 5-year prices, which was able to lead to a certain reduction in evaluating integrating contact among the countries of the community while world prices kept growing. The other industrialized countries did not establish any formal grouping, but compose countries highly engaged in world trade and, in this way, fulfill an informational and comparative role as a point of reference in G. Fink's compilation.

It is also worth noting that the magnitude of trade flow is not a direct measure of integration in international trade. Only a measurement of the intensity of individual flow, made by means of normalized delta coefficients, makes it possible to evaluate the integrating nature of trade contacts among partners. On the basis of the formation of dsi indices in the 1969-1975 period, it is possible to formulate the following conclusions referring to the problems of integration in world trade:

Up to 1972 world trade exhibited a tendency for regionalization of trade flow, which was primarily the result of historical conditioning,

Economic reanimation occurred in 1973, expressed in a generally greater intensity and strain in international trade exchange,

The years 1974-1975 were of a critical nature, shown by the many trade contacts among groups of countries, and

The historically occurring tendency to increase the indices of the scale of integration was significantly checked in 1975.

The results referring to mutual trade relations in 1969-1975 can be presented as following:

An increase in the importance of developing countries in world trade,

Export and import animation in the socialist countries,

Maintenance of internal compactness by the basic economic and political blocks, EEC and CEMA, and

The discrimination barriers in trade between East and West were not overcome.

The problems and difficulties specified are not qualitatively new phenomena, but point out which of the elements in international economic life have played a decisive role in foreign trade in the period under investigation and the processes of integration associated with them. The special position of CEMA demands attention. The intensities of mutual trade exchange in the CEMA countries was judged stronger than those observed within the framework of other groupings. The intensity of trade exchange between CEMA countries is stronger than with their external partners. On the other hand, the involvement of CEMA countries in the international division of labor is still lower than that of the industrialized capital countries.[7] For this reason an interesting continuation of this research would be the preparation of an analysis of trade flow within the economic grouping. It would be interesting to compare the dsi indices referring to trade flow between CEMA member nations in the context of the high evaluation of the integration of the grouping as a whole.

FOOTNOTES

* This report was developed on the basis of a Master's Degree: Sleszynski, J, "Matrix analysis of the flow of international trade with special consideration of the problem of integration", Warsaw, University of Warsaw WNE, 1979.

1. Similar suggestions are contained in the article: Kamecki, Z., "Concepts and types of economic integration," EKONOMISTA, No. 1/1967.

2. Fink, G., "Measuring Integration - A diagnostic scale applied to EEC, CEMA and East-West Trade 1938-1975, Wiener Institute for international Economic Comparisons, FORSCHUNGSBERICHTE, 42/1977.

3. Leontief, W. and A. Strout, "Multiregional input-output analysis, structural independence and economic development,"London, 1963.

4. Kotynski, J. "Struktura handlu miedzynarodowego. Metody oceny" [Structure of international trade. Methods of evaluation], PWE [State Economic Publication], Warsaw, 1979.

5. Fink, G., Op. Cit.

6. EEC - Belgium, Denmark, France, Netherlands, Ireland, Luxembourg, FRG, Great Britain, Italy. In 1969-1971 EEC was composed of six countries, without Great Britain, Ireland and Denmark.

   Other industrialized countries - Andorra, Austria, Australia, Finland, Gibralter, Greece, Spain, Iceland, Israel, Japan, Yugoslavia, Canada, Malta, Norway, New Zealand, Portugal, Republic of South Africa, Switzerland, Sweden, United States.

   OPEC - Algeria, Saudi Arabia, Ecuador, Gabon, Indonesia, Iraq, Iran, Qatar, Kuwait, Libia, Nigeria, Venezuela, United Arab Emirates.

   CEMA (only European countries) - Bulgaria, Czechoslovakia, GDR, Poland, Romania, Hungary, USSR.

   Other socialist countries - China, Mongolia, Vietnam, Democratic People's Republic of Korea. Cuba was omitted from this group, but its quantitative share in exchange would not produce any essential changes in the structure of international trade.

   Other unindustrialized countries are all those countries not mentioned above.

7. Kotynski, J., Op. Cit.

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IMPROVEMENT OF TOURISM SITUATION DISCUSSED

Warsaw POLITYKA in Polish No 20, 17 May 80 p 7

[Article by Janusz Turakiewicz: "Tourism--an Alley or a Street Corner?"]

[Text] The first of May was a nationwide day of preparation for the tourist season. Tourist enterprises announced their readiness to their superior units. Committees of the national councils, the State Trade Inspectorate (PIH), various staffs and everybody and his uncle were out making inspections. In the final analysis we will check things out ourselves when we go on vacation. But when we speak of readiness for the season we ordinarily have in mind the state of the base: newly painted cottages and canoes, clipped hedges, fresh bedding in the hotels, something on the vacationer's plate. And from the viewpoint, as a whole things are not so bad from year to year. But is this enough?

Not becoming involved in theoretical discussions on the subject of what is, and what is not the tourist movement, we should point out that the entire national economy of Poland could be considered in the tourist economy--there is no sector which does not possess its own tourist base or is not connected in some other way with tourism.

Let us glance at the figures: of the 693,000 lodging spaces (excluding private quarters) which we had at our disposal in 1978, only 40 percent found themselves at the disposal of service units of the tourist movement. The remainder were managed by units outside the sector. The result is a familiar one--a total lack of real coordination and uniformity in tourism management, intensified by the opening of the Main Committee for Tourism [GKT] in 1978.

If it sounds paradoxical, it is nonetheless true: as a result of the division of the former Main Committee for Physical Culture and Tourism [GKKFIT] into sports and tourism echelons, the latter developed two central management centers--the Main Committee for Tourism and the ORBIS Tourist Agency, established to handle foreign tourism. It is difficult, however, to separate the problems of domestic and foreign tourism, when the windows for both Poles and foreigners utilize the lodging and food service facilities

which are under both ministries, and use them at the same time; and when the local tourist enterprises (GKT echelon) increase foreign exchange turnovers more and more. What has followed is confusion in jurisdiction and difficulties in local coordination handled by voivodship tourist enterprises.

These are examples which in substance affect the central level. But when we speak of the economy we should remember that it is created by enterprises. Even the shortest list includes seven nationwide travel bureaus (ORBIS and the Sports-Tourist bureaus directly subject to the ORBIS Tourist Agency; the Tourist and Group cooperatives; the youth ALMATUR, HARCTUR and JUVENTUR), the economic echelons of the Polish Touring and Sightseeing Society [PTTK] and the Polish Motorists' Union [PZMOT], 46 local enterprises and several dozen ORBIS hotel-food service enterprises. The organization of the economic activity of the PTTK and the situation in particular voivodships in which departments, branches, representatives and other agencies of all the travel bureaus operate side by side is a topic for separate "organizational poems." And I did not mention in my enumeration the Workers' Vacation Fund [FWP] or the Enterprise of Social and Tourist Services of Royal Castles (which belongs to the Sudetan Agrocomplex and administers, among other things, the shelter at Sniezka), more and more numerous enterprises and institutions of social services called upon to administer the rest and relaxation base of particular ministries...

At a doctoral seminar in one of the economics institutes, the thesis was formulated that an "organizational system" in tourism does not exist at present. And in fact something whose elements not only do not cooperate to realize a goal, but collide with one another cannot be taken for an organizational system.

Is the problem only organization? The above-expressed limitations relate to formal organizational problems, areas of operations and the jurisdiction of particular units. This organizational skeleton, however, (which will be outlined eventually) is governed by the spirit of the principles and norms of operation. Perhaps in this area there is order, dispelling the consequences of improper organization? Unfortunately, here too the situation is the same, if not more intense--uniform principles for playing the game that apply to all really do not exist.

Here are two of the most important wonders:

there is no uniform financial system. ORBIS and local enterprises use the system of... the communal economy (with few changes). Cooperatives and youth and social organizations have their own principles. As a result of this, e.g., the service bureaus of the tourist movement PTTK do not make use of bank credits.

a uniform rates scale and joint payments principles do not exist. And here the greatest uniformity is found in units of ORBIS and local enterprises which were included in the joint Collective Agreement of Labor for the (former) Union of Tourist Management from 1974. The situation with regard to payments, bonuses, training qualifications and uniforms in other units is diverse.

Let us add to this the lack of uniformity in statistical reporting (with many well-noted curiosities), various sector accounting plans, the lack of action for the past 6 months on the problem of surcharges to new building costs with reference to investments implemented by the economic system from the resources of the Central Fund of Tourism and Rest (as a result of which, enterprises which decided on an investment to develop the base must incur bank credits at a high percentage rate and bear losses, and their managers receive no bonuses or rewards), the separate designation of categories for the installations of ORBIS and the other base, the variance...

Enough of this enumeration. But even it refers in substance only to market units--broadening it to include the environmental base would expand this article into a fair-sized book.

The answer to the question about the cause of this situation is more complex and demands much analysis. It appears, however, that it may be traced to two factors: a lack of perception (due to the lack of a real total balance of tourist turnovers) concerning the real role of tourism in the national economy and the particularism of various nontourism ministries and the organizational units subject to them (usually based on economic power).

A prognosis done by the then GKKFIT several years ago established that in 1980 tourist turnover (excluding trips abroad) would reach approximately 87 billion zloty. Making use of these estimated data we should keep in mind that they are lowered by hidden outlays borne in the maintenance of factory rest and relaxation centers by their users. Of the sum of tourist turnover which de facto far exceeds 100 billion zloty, only one-fifth goes to units of the tourism and rest and relaxation division--the remainder is accounted for in data of the social fund and the results of the activity of other sectors of the national economy. If we add to this the low economic effectiveness of sector units (with the sea as a separate topic) and the dispersal of data concerning them among various departments of the state budget, the first statement will be totally understandable.

It is more difficult to prove the second assertion--the imputation of particularism is not a pleasant one and, understandably, may produce some resistance. However: to what else can we attribute the situation that presently exists in the factory rest and relaxation base? A chronic inability to bring about the coordination of activities, the unavailability of free vacation spots (the level of usage of the environmental base is officially unknown--for several years statistical yearbooks of tourism and rests have been designated exclusively for office use), broad, high fences surrounding most of the centers and rest and relaxation homes--how do we explain these things? It is true that having one's own social base and that the rich and varied possibilities of rest create preferential conditions for gaining the favor of employees, a fact to which the directors of ministries, unions and enterprises cannot be indifferent. But at the same

these preferences bring about the creation of differences in the standard of rest of particular groups of workers, something which can no longer be ignored as a factor in the achievement of daily order. How do we justify the difference in the equipping of the rest base of small factories which have a small social fund and that of magnates with millions of zloty written off for this fund? And, at the same time, a number of other phenomena arise which, taken together, with regard to the 4,000 or so environmental installations which exist at present, must bring about counteraction.

These phenomena are, of course, nothing new. They are constantly making the newspaper columns; they were the subject of government decisions; local authorities and scholarly bodies studied them. In 1972, the Polish Economic Society [PTE] presented a collection of fundamental principles for the operation of tourist activity, the partial implementation of which led to the creation of the local tourist economy and to the improved situation in some other sectors. It appears that at present the execution of a new analysis of the situation in this area and a renewed formulation of proposals are indispensable. Such is also the essence of one of the major recommendations of a scholarly conference devoted to the economic problems of tourism held in Zakopane this year.

The ideas for improving the situation in tourism are many. In most cases they are formulated at the regional level, since, in the final analysis, the voivodship governor must concentrate on the necessity of coodinating the situation on this market. Jelenia Gora Voivodship has the most concrete plans at present: the program of the Jelenia Gora Tourist Complex was approved last year by the party voivodship committee and accepted by the GKT. This program in its first stage anticipates the concentration of the coordination of tourist economic and social activity within the territory of the voivodship to be in the hands of the voivodship governor (through the proper department of the governor's office) and the Voivodship Council of Trade Unions, and, in later stages, the complete normalization of the situation in the area of the management of the base. This program, however, has one primary shortcoming--in spite of its pointed expression it assumes the good will of the users of the environmental base. And this good will does not exist and probably will never exist.

The matter must be presented unequivocally: tourism has become an essential element of the national economy and it is in need of the application of the proper methods for its economic management, which means its basic organizational reconstruction and the creation of a strong center of decisionmaking. At the same time the specific character of tourist phenomena in particular regions demands the normalization of the situation in voivodships. Strong voivodship and intervoivdship tourist enterprises (the latter in regions with small tourist potential), managing the entire service base and possessing suitable potential for executing investments as well as the proper technical support base, are indispensable. Only such economic organisms are able to function effectively, to expand the base, to create proper qualitative conditions for rest purposes. Only then, under conditions of efficient organization and an economic-financial system adapted to the specifics of tourism, will it be possible to realize the fundamental social functions of tourism.

8536
CSO: 2600

GRAIN-FEED PROBLEM HINDERS LIVESTOCK EXPANSION

Warsaw TRYBUNA LUDU in Polish 27 Jun 80 p 4

[Article by Ewa Fiala]

[Text] In the area of Polish agriculture, plant and animal production has gotten out of balance in recent years. From 1971 to 1979, total production grew 21.2 percent, with animals increasing at almost 40 and plants only 8.4 percent. As a result of this disproportion, grain and feed imports have been necessary in order to maintain and develop even further the level of cattle raising. These imports, which have increased in size and cost each year, amounted to about 9 million tons of grain last year. In recent years about 30 percent of the entire stock of concentrated feed has been provided by imported feed.

How have we gotten to this imbalance? There is no doubt that unfavorable weather conditions were the most important reason: for 5 years we have had bad harvests and they came at a time when the rhythm of agricultural supply grew worse and when industrial production did not achieve the levels which had been planned. In 1979, the grain harvest was 4.2 million tons lower than in 1978. Thus, in the last 4 years there has been no increase in plant production.

The continuation of such a situation, or--speaking simply--basing almost one-third of the meat production on imported feed, is impossible. For many years we were used to simple computation: how many head in the herd, how many cattle, how many sheep? We must now modify this kind of counting; we still have to count how many head, but now we must know on what kind of feed they were raised.

Solving the grain-feed problem without outside help is a basic condition for maintaining and increasing the number of agricultural animals as well as for increasing the supply of animal products to the population. There is no other possibility. Agricultural stock, and especially grain, is becoming more expensive all the time. It now represents strategic value on world markets.

Can we produce more grain and feed?

We can, if we fulfill certain conditions.

Large reserves are implicit in the observation of the principles of agricultural technology. Their crop-productive role is not impaired and in spite of that these reserves are violated. It is hard to believe, but most mistakes are made in the process of cultivating the soil. Obtaining--thanks to the application of mineral fertilizer--large increases in yield has resulted in less attention being paid to the depth of plowing; working schedules are not maintained, and cultivation and care are disregarded.

Scholars claim that a 2-week delay in planting potatoes can lower the yield by as much as 40 percent. Climatic specifications and specific requirements for oats create a situation in which each delay during the harvests is measured by a crop reduction of several hundredweight per hectare. This also has its effect on other grain and root crop cultivation.

Careful and thorough soil cultivation sets up conditions for high soil culture and always guarantees, no matter what the amount of the fertilizer, higher yield.

Faith in the omnipotence of chemistry is deceptive; one can be misled by the incorrect application of chemicals. We are not negating the need for increasing the amount of fertilizer, but it must be remembered that the number of kilograms applied proves nothing. What is important is how and when the fertilizer is applied. The fertilizing of soils from which the acid has not been removed is, for instance, a waste. Scholars claim that applying lime to acid soils raises the yield from 2 to 4 hundredweight per hectare, and for extremely acid soils by as much as 8 hundredweight per hectare.

We have enough lime, but implementation of the liming program is progressing too slowly. This--as research at the Institute of Cultivation, Fertilization and Soil Science in Pulawy has shown--threatens to put the brakes on the yield growth of as much as 60 percent of the area of soil under cultivation.

While looking for the most effective way to increase yields, one should not dismiss time-proven but irreplaceable methods. One does not see harrows, Campbell rollers or cultivators in the fields any more... "Bisons," airplanes and helicopters scattering fertilizer and dusting farms are necessary, but along with and not instead of the farmer who diligently observes the work calender and performs all the operations.

In addition, the sowing structure does not always correspond to the feed necessities of the state. It is too often forgotten that in agriculture, plants are the producer and that the final results depend upon how successful the yield has been.

In general, we must try to increase the area of grain and good feed bearers. In the Pulawy Institute of Cultivation, Fertilization and Soil Science, a general analysis of the possibilities in this area has been completed. This analysis shows that by growing grain in an area a little larger than 8.5 million hectares (which means 57-60 percent of the sowing structure) one could obtain--given a yield of 36-37 hundredweight per hectar--about 30 million tons of grain yearly.

Such yields and--even more--such a proportion of grain in the sowing structure are not unrealistic. If we had met all the requirements of agricultural technology, observed the regionalization of crop cultivation which has been developed, and put into practice the ideas of the fertilizer council (last year on only 400,000 hectares belonging to state farms) we would have been able, after satisfying all consumer demands (about 10 million tons), to earmark about 20 million tons of grain for feed. And this in turn would have guaranteed the production of the necessary amount of meat and other animal products.

Growing food in the field means a great deal, but it is by no means everything. The harvesting and storing of the yields demand even greater care and concern. Things are not at their best in this area at present. A significant amount of grain is waster during the harvest in the field and while being transported. Losses during the storage period are large.

If we could calculate the expenses borne on farms for the development and building of accommodations for livestock and for preserving and accumulating food, the disproportion (considering the difference in costs) would be very great.

This must be changed. For example, we must not allow 20 percent of the potatoes in a pile to become spoiled, or silage to diminish in primitive mounds, or feed to lose in quality as well as in quantity.

The effectiveness of feeding animals and the productivity of the herd which is associated with this also leave a great deal to be desired. The spread of feed consumption to production units of cattle or of milk is very sizable.

It is estimated that as regards swine in individual farms, one-third too many feed units are consumed. At the same time, irregular and inadequate feeding (a matter of the content of the ingredients) prolongs the fattening period by about 30 percent.

These facts attest to existing reserves and to the possibility of obtaining production effectiveness at less cost and more quickly.

Many reserves--as a result of the above--are thus implied in the full use of agricultural information.

This is also a matter of both scientific achievements and of the constantly rising level of farmers' qualifications.

The research and development in scientific institutions concerning soil welfare, the regionalization of growing crops, etc., is being put to practical application, although with too much delay. The channels of information are slight. Almost the same reservations can be applied to the use of information gathered by other disciplines of agricultural science: genetics and the science of raising plants and animals. Applying this to the cultivation of new crops, to the crossing of meat and milk cows, and mastering the feed technology which has been developed--all of this is taking place too slowly.

The efficiency and qualifications of the farmers' advisory services and of the food producers themselves also determine the efficacy and the rate of assimilating the achievements of science. Raising the level of knowledge and qualifications of persons engaged in agriculture and on farms is being worked on considerably. Constantly, however, the level of farmers' education and the level of advisory services falls short of the level already achieved in other branches of the economy.

Given the present situation, it is unusually important to realize that there is both a pressing need and a possibility to put to good use reserves which, during any limitations of the means of production, can in a significant way correct the results which have been achieved.

Great industry and reliability is required of farmers; great commitment, skill, and expertise from advisors and organizors of production; and from all, an active search for ways to use fully the productive base which we possess.

9473
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NEW DEVELOPMENTS IN ELECTRONICS INDUSTRY

Bucharest ROMANIA LIBERA in Romanian 18 Jun 80 pp 1, 5

[Article by Marian Dumitrescu: "Innovations in the Electronics Industry"]

[Text] Many readers have written or telephoned us at the editorial office to ask us for information about the innovations in the production of electronic devices for the population. Consequently, what new products--television sets, radios, cassette players and so on--are the enterprises preparing for 1980 and for the next 5-year period?

We addressed the above question to Comrade Engr Lazar Sandra, general manager of the Industrial Central for Electronics and Computer Technology, with Comrade Mihai Alexe, business manager of the central, Paul Apostol, head of the central's technical department, Herbert Risenberg, engineer in the technical department, and Mihail Petrescu, assistant business manager of the Baneasa Enterprise for Radio Parts and Semiconductors [IPRS], also participating in our discussion. Let us therefore see, below, how the situation looks at the present time, and for the future, with regard to various groups of products.

In the field of television sets, sets that cover the entire range of demands from a viewpoint of the diagonal of the screen are being made. There are television sets with a diagonal of 31 cm (portables), 44 cm, 47 cm, 50 cm, 61 cm and 65 cm. Only the minitelevision set, with a diagonal of 23 cm, whose prototype has been built, is missing, with it being introduced into manufacture in the next 5-year period, depending on the supply of component parts. The concerns at the present time are directed especially toward diversifying the existing types, with the new models being presented at TIBCO in order to determine the preferences of customers. For example, the new generation of television sets with a diagonal of 61 cm (the Diamant 256) is distinguished by a new form--cabinets with rounded corners, finished in different colors with carbamide lacquers, the masks being adapted to the new line--and the majority of the sets are completely transistorized and have integrated circuits, which leads to a drop of about 30 percent in the weight and to a halving of the consumption of electric power. After the Sport portable set, equipped with an

electronic game, has recently appeared in stores, sets with a diagonal of 44 cm (the Olt 258), having the same electronic game, are also to be put on the market in July. The possibility of offering to citizens an independent electronic game adaptable to ordinary television sets is being studied for the next 5-year period. Starting with next year, TV sets will be equipped with a new type of all-channel, mechanical selector. This innovation necessitates a few supplementary data for those who are not experts. TV transmissions can be made in VHF (very high frequency) or UHF (ultrahigh frequency). The present transmissions are made in VHF, on channels 2-12, but the system does not permit suitable coverage of the whole territory of the country with programs, especially in zones with hilly terrain. The UHF system offers the possibility of providing good reception in all localities by means of local relays of low and medium power. Although there is at present a single relay, in Brasov, which can be received on channel 34, many new UHF relays will be installed in the next five-year period. The new type of selector permits any channel, from 2 to 60, to be received with each knob. It should be borne in mind that for older television sets, which have only channels 2-12, the experts at "Electronica" have devised converters--adaptable through the antenna terminal to the existing sets--that will permit UHF reception. As new relays are installed, these converters will be made and put on the market. We should also mention that this year the whole production of television sets is provided with VHF-UHF reception. Both a group antenna for UHF (an antenna that will go into series production in 1982) and a group antenna for small apartment houses (at most 10 apartments), which will be finalized in the 2d half of the year, are under study.

The enterprises for electronic components within the central are outstripping the concerns of the designers of television sets, Mihail Petrescu told us. Thus, the achievement of the integrated circuits needed for the new touch controls for television sets has been undertaken at the Baneasa IPRS. In these controls, most of the mechanical actions--a main source of defects--are eliminated, with the desired channel changes being made by merely touching the sensors. Television sets equipped with such controls will appear next year. In the field of television sets, a single thing should be added. The staffs of experts are working intensely to be able to take the next step, the transition to color transmission and reception in the next five-year period.

Radios constitute another field of major interest to customers. There is, it is true, a quite varied range of sets--from the small, pocket-size ones to the stereos (the Bucur) with a power output of 6 watts--but there is still a whole series of needs that have to be met. Two "pocket"-type sets, the Omega (medium wave and longwave) and the Omega 2 (medium and ultrashort waves), have recently appeared on the market. The diversification of the sets of small dimensions will continue through the manufacture of the Solo-075 radio (the size of a pack of cigarettes), with longwave and medium wave, and the Solo-300 radio (the size of a post card), with longwave, medium wave and ultrashort wave. The prototypes have already been made, with

discussions about the performances being conducted at present with the representatives of trade. In addition, a portable radio of somewhat bigger dimensions, with four wavelengths (longwave, medium wave, shortwave and ultrashort wave), is also in preparation. In the field of stationary sets, it should be mentioned that work is being done both to diversify the present, middle-range types and to assimilate high-fidelity sets ("hi-fi" as it is said throughout the world). After the Bucur 8 and 9 (stereo, with increased power--15 watts) go into production this year, the Derby and the Samba (4 watts of power, 4 wavelengths, and integrated circuits) will appear in 1981. For motorists, the innovation of 1980 is called the Lira, a set that has better performances than the present Predeal model. Thus, the sensitivity has increased substantially (for example, on shortwave it is 50 microvolts as compared with 120 microvolts for the Predeal) and also the selectivity (32 decibels instead of 26 decibels), and the power output is double (4 watts instead of 2 watts). High-fidelity sets, the first Romanian hi-fi stereo radios, made from a very modern schematic, with integrated circuits, in a range of power from 10 to 35 watts (the necessary speakers are in the process of preparation at "Electronica"), in stationary and portable variants, will appear in the 2d half of the next 5-year period.

The amplifier constitutes a type of product in greater and greater demand. Two types of amplifiers, of 10 and 20 watts, (assimilated at the end of last year at "Electronica") are being made and a stereo of greater power--2 x 50 watts--will also appear soon. In addition, work is being done on a high-fidelity stereo amplifier of 2 x 20 watts, which will be able to be put on the market in the 2d half of 1981. The new devices, with better performances, also require suitable speakers, which can be mounted in the "sound enclosures" ("boxes" as they are known by the general public). Acoustic enclosures of 8, 16 and 32 watts have been achieved and those of 50 watts have recently been approved (the experts at "Electronica" are now working to achieve high-fidelity speakers for high and low frequencies). The manufacture of car speaker systems, a product that is distinguished by very good sound quality and compact construction, has begun. The first type--of 2 watts--has already gone into production, and the speaker systems of 8 watts will also be made available to customers by the end of the year. We should also mention the fact that sound poles of 25 watts (4 speakers), extremely necessary at cultural and sporting events, were also introduced into manufacture a month ago.

We can inform the fanciers of cassette players that, after the old Star model, the production of the Dana type, characterized by distinctly better performances, has begun. Thus, it has twice the power output (0.8 watts instead of 0.4 watts), a built-in microphone, automatic adjustment of the recording level, a tone control, a "tape-stop" in recording, an auto-stop at the end of the tape, and cassette ejection. A stationary mono radio with a cassette player will also be assimilated by the end of the year and a stationary stereo radio cassette player will appear in the second half of 1981. The undertaking of the manufacture of high-fidelity stereo sets with greater power, the assimilation of cassette players with better

performances (portable and stationary stereo cassette players and mono and stereo car cassette players will also be produced by the middle of the next 5-year period) and the achievement of pickups (a mono pickup that fits various types of radios was assimilated in 1979, the stereo pickup stage and the mono pickup with its own amplifier were recently approved at "Electroarges," and the stereo pickup with an amplifier is to be approved at "Tehnoton" in Iasi in the third quarter) will permit diversified models of radio cassette players and musical combinations to be provided to the population in the next 5-year period.

We should mention, lastly, a few answers received from our speakers in connection with various questions raised by readers. Thus, regarding the warranty on television sets, the fact should be mentioned that the assumption of repairs in the warranty period by the service network of the "Electronica" Enterprise has been undertaken in 13 counties, it being intended that the system be extended throughout the whole country by the end of the year, with service branches being set up in the county seats and service points in other cities. In connection with the proposal, made by Gh. Jitariu of Bucharest, of putting integrated circuits on sale (a proposal appearing in the "Opinions" column of our newspaper on 29 May 1980), Comrade Mgr Mihai Alexe gave us the following explanation. A television with integrated circuits has two to six modules, each module containing both distinct parts and one to two integrated circuits. While complete replacement of a module is a simple operation (but not always economical, because it could be that it is necessary to replace a 2-3 lei part instead of the module, which costs 500-600 lei), replacement of an integrated circuit requires highly qualified experts and special equipment for adjusting the module (for example, the mere exceeding of the temperature by a few degrees in severing the 15-17 connections of the circuit leads to irreversible deterioration of the circuit). "We, those at the IPRS," Mihail Petrescu added, "can deliver to the market any quantities of integrated circuits, diodes, transistors, and paper, electrolytic or plastic-film capacitors—and we already have recently delivered integrated circuits to the 'Dioda,' 'Electrotehnica' and other specialty stores. The 'Electronica' Enterprise's own store, where we will provide any domestically made part requested by customers, will soon be opened on Calea Mosilor, on the ground floor of apartment house 53."

12105
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LABORATORY 'OCEAN' AIDS IN SHIP CONSTRUCTION

Bucharest ROMANIA LIBERA in Romanian 18 Jun 80 p 3

/Interview with Engr Jean Popovici of the Galati Institute for Naval Research and Design, by Viorel Chiurtu: "The Ocean in a Laboratory"; date and place not given/

/Text/ The Galati designers and builders of ships have conceived and achieved a special installation that creates conditions similar to those of the oceans and seas that Romanian ships travel. They have created an ocean in a laboratory, so to speak. However, the construction of this ocean was not at all easy, if we consider the fact that such a construction has been achieved for the first time in the country, there not existing either the experience or the suitable technology for it. And, nonetheless, the enthusiastic staff at mile 80--people who have so often passed extremely difficult production examinations, due to intelligence and diligence--also pledged itself to this work unique in its own way. And we will see in these lines why the cavitation tunnel--because, in fact, this is the correct name of the "ocean" found in the laboratory at the Galati ICEPRONAV /Institute for Naval Research and Design/--is built in an absolute premiere in the Romanian ship industry. We got details from Comrade Jean Popovici, the head of this installation, a young engineer whom, if it had not been said to us that he had finished school 7 years ago, we would have believed to still be a student.

/Question/ What is, in fact, this "cavitation tunnel" and how does it aid in the building of Romanian ships?

/Answer/ I would like you to bear in mind that a cavitation tunnel, this special installation unique in the country, is set up under natural conditions specific to oceans and seas, in order to study the operational and strength phenomena of the propellers of ships, more precisely, the screws.

The cavitation tunnel put in use at the Galati ICEPRONAV has a length of 12 meters and a height of 7 meters, with a possibility of achieving within it a speed of 12 meters per second. Ignorance of the phenomena of cavitation can influence the proper functioning of the ship in general, with cavitation causing premature erosion of the screws of ships, leading ultimately to high fuel consumption. Up to now, we had to do abroad this research for being sure of the quality of the screws, a thing for which, of course, we paid valuta. Along with the tunnel's entry into operation, we abandoned imported research, with all the experiments on the screws that are made at INETOF [expansion unknown] being done in the tunnel built by us. The cavitation research and tests with a special character concern, among other things, the tests of complexity (ship, screws and rudder), the tests for ships with two and three axis lines, jet propellers and so on.

[Question] From what I have learned, the installation was made with local forces to a great extent.

[Answer] Yes, the makers of this installation are the experts and workers at the shipyard in the locality. A special technology, which our shipbuilders eventually perfected and so faultlessly achieved this tunnel, is required for processing the stainless steel from which the tunnel is built. I would like you to also bear in mind that although the construction is big it required delicate work, like that of a jeweler. The tunnel's inner surfaces, which, again I emphasize, had to be cold-worked due to the nature of the material, are perfectly smooth, like those of fine crystal. Otherwise, any small porosity or unevenness would have effects of the most unfavorable sort on the research. But, to the efforts of the shipbuilders were added those of the Galati steelmakers who assimilated and produced in Galati the quantity of stainless steel needed for achieving the tunnel. This permitted us to abandon the importation of stainless steel and to use the money saved to procure some of the most modern apparatus with which we equipped the tunnel, it being from this viewpoint, too, comparable to the best installations of this kind in the world.

[Question] Comrade Engineer Popovici, I would like you to specify further what the practical contribution of the research done with the aid of this installation is to the building of screws.

[Answer] At present, all models of screws for ships are made by us. More precisely, the designer devises the screw in accordance with the specialized literature, then makes the model of the screw and, lastly, subjects it to tests in the pool and the cavitation tunnel. Later, the screw's parameters, optimized, are processed on computers, in accordance with a special program that furnishes concrete technological data for the industrial execution of the screws at the INETOF specialized enterprise. The author of this program, which is put in a special machine at INETOF, is Engr Clement Georgescu of the Galati ICEPRONAV. Advantages: the work of executing the screws has been lightened very much, that sullage when the screw is achieved without a program has been eliminated, and the quality of the

products has been improved. The screws achieved as a result of the research done in the cavitation tunnel and on the basis of the computer program ensure the functioning of the engines of the ships under the conditions of low fuel consumption, have a longer life and achieve the driving speed of the ships with a far greater and more certain probability.

12105
CSO: 2700

NEED, FINANCING PROCEDURE OF PROJECTS QUESTIONED

Belgrade BORBA in Serbo-Croatian 30 Jun 80 p 2

[Article by Fehmija Nikocevic: "Voluntarily--If It Is Re[illegible]d"]

[Text] According to figures of the Socialist Accounting System, in 79 opstinas of Bosnia-Hercegovina 121 accords or agreements have been concluded; purportedly calling for the pooling of labor and capital, in most cases they actually perform the function of marshaling capital to finance local capital investment projects. The signatories of the self-management accords and social contracts are mainly organizations of associated labor in the sector of economic activities.

Unlimited Alienation

The value of the funds assembled solely on the basis of these accords and contracts is 2.642 billion dinars. This figure is not final, since we do not know the figures on the total amount of funds to be pooled under agreements which do not specifically state the amount, nor the value of funds assembled in the other 30 communes.

The funds assembled are being used to finance local capital investment projects such as adaptation and reconstruction of municipal service facilities and utilities, to build recreation and sport centers, cultural centers, theaters, reading rooms and children's institutions, as well as to build new roads or rebuild existing ones. Funds are moreover being assembled to build secondary school centers and universities, hospitals, health care centers, PTT [postal, telephone and telegraph] facilities, new airfield, hotels, and monuments, to pay for monographs, to organize celebrations, and so on. The "spenders" of the funds which have been assembled cover, then, a wide field: from water departments and hospitals to airports and commemorative ceremonies!

The way it's worked out so that these funds can be "pooled" is very interesting; actually, to put it mildly, they are being alienated from associated labor, especially that portion which comes from the physical production sector. According to the findings of auditors of the Social Accounting Service, the funds are primarily assembled through payment into a giro

account, usually those of opstina assemblies, there is no repayment obligation, the payment is charged to the business fund and to some extent depreciation, and then also community consumption funds. There are cases when a provision of the accord even states that the payment shall be charged to current income and material costs. We are obviously dealing here with impoverishment of the ability to form capital and reinvest, that is, income is being siphoned from the economy into noneconomic activities and the budgets of sociopolitical communities....

Associated Labor Is Paying for Everything

In the Social Accounting Service of Bosnia-Hercegovina they have specific figures on exactly who has gathered how much and for what purposes through accords and contracts. For example, construction of the Cooperative Center in Tuzla is being financed from personal incomes, the airport in Tuzla from current income, and the School Center in Banovici, the health care center in Vares, the athletic center in Ilidza, the cultural center in Bileca and adaptation of the villa Neretva in Mostar from the business fund. There is an accord for financing the regular activity of the radio station Romanija, construction of a Class A hotel in Bugojno, and so on.

At a time when adoption of specific programs for economy and contributions to stabilization is being insisted on at every work station, in every collectivity, and in every local community, this kind of alienation of income must be stopped. No one can, of course, argue that we do need many projects, but are they to be built precisely at this moment and precisely in this way? Must all this really be paid for exclusively by associated labor and what is more under the guise of conclusion of self-management accords and contracts, which is to say voluntarily (though even here there are cases of formal declaration, manipulation with worker caucuses and ignorance).

There is not enough time, and the action which should be taken by the organizations and organs of the Socialist Alliance and Federation of Trade Unions in basic organizations of associated labor, the local community and sociopolitical communities should be aimed at creating the practical conditions for the associated worker and citizen to decide on the allocation and expenditure of every dinar intended for public and community expenditure, concerning every allocation from income, and concerning investment projects and plans.

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MACEDONIAN ECONOMIC COOPERATION WITH OTHER REPUBLICS

Belgrade BORBA in Serbo-Croatian 30 Jun 80 p 5

[Article by Zivko Cerovic: "Both Reality and Manifold Potential"]

[Text] The difficulties encountered by the Macedonian economy have resulted in large part from the lack of firm relations, that is, from inadequate pooling of labor and capital with the economies of the other republics and provinces. The decline of production in the first months of this year and the shortage of raw materials and producer goods would have been borne with less pain if the republic economy had had relations with the larger reproduction complexes in the country, since it has been shown that only they can easily withstand the blows of adverse economic developments.

Reduction of Imports

Opportunities for cooperation exist in many areas, beginning with utilization of raw materials and energy resources and going to nonferrous and ferrous metallurgy, and then the fields of metal manufacturing, the chemical industry, textiles and the food manufacturing industry. At the same time there are important opportunities for relations between commercial organizations in the advanced republics and agricultural organizations from Macedonia, says Stevan Georgievski, chairman of the Executive Committee of the Macedonian Economic Chamber.

A strengthening of integrative processes achieves several goals. Especially important among them are reduction of imports, a strengthening of the country's energy potential, changes in the present economic structure, a strenghening of the export orientation of the republic economy and of the Yugoslav economy as a whole, and, frequently neglected, there is the more rapid development of the underdeveloped republics and provinces.

The way that the development of the underdeveloped has been stimulated up to now, a method based on credit financing, should be replaced more and more by firm relations based on shared income and the pooling of labor and capital between organizations of associated labor themselves, and they should above all have an economic motivation to do so, Georgievski said.

Favorable examples of cooperation of organizations of associated labor from Macedonia with related organizations from the rest of the country confirm that the pooling of labor and capital is of mutual benefit.

Examples of Pooling Labor and Capital

The Skopje 11 Oktomvri Bus Factory has for 18 years now been carrying on fruitful cooperation with collectives from Serbia, Croatia and Bosnia-Hercegovina. There are plans to expand this collective's cooperation with the Crvena Zastava Plants of Kragujevac in the production of small trucks. Zastava already has an automotive parts and auto accessories factory in Ohrid, and it is also collaborating with Ruen of Kocani. New relations between this collective and other Macedonian work organizations in the metal manufacturing industry are also possible.

Rada Koncar of Zagreb has built two factories in Macedonia. One is the appliance and equipment factory in Skopje, and the other the refrigerator factory in Bitola. This cooperation started in 1963. Alumina of Skopje has two factories outside Macedonia. These are the aluminum shape and fabrication factory in Skender Vakuf in Bosnia-Hercegovina and the Sidal factory in Sid, which is in Vojvodina.

EI [Electronics Industry] of Nis has built two factories in Djevdjelija. These are a factory for production of high-frequency ceramic articles and a tool factory.

Mlaz of Bogdanci is collaborating with IMV [Industry of Motor Vehicles] in Novo Mesto and Alpetur of Skofja Loka. They are to build a factory for trailers and a tire retreading plant.

FAKOM, which is part of the Skopje Steel Mill, has just recently organized the production of electrostatic filters, which will be built in cooperation with MINEL of Belgrade.

The Skopje Furniture Factory is collaborating successfully with the Todor Dukin Furniture Factory in Belgrade.

Slovin of Ljubljana and also the commercial work organization Emona are collaborating with agricultural organizations from Macedonia.

In the last few months the Macedonian Economic Chamber has been notified of several initiatives to pool labor and capital in the fields of nonferrous metallurgy, textiles, food, and the metal manufacturing industry. Some of the projects are now being carried out.

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